DOCUMENT RESUME

ED 125 512 HE 008 112

TITLE Experimentation and Research in The Birkman Program of the Austin College Total Institutional Project, 1972-1975.
INSTITUTION Austin Coll., Sherman, Tex.
SPONS AGENCY National Endowment for the Humanities (NFAH), Washington, D.C.; National Science Foundation, Washington, D.C.
PUB DATE 75
GRANT ED71-28-72459; GY-10413
NOTE 239p.; For related document, see HE 008 109

EDRS PRICE MF-$0.83 HC-$12.71 Plus Postage.
DESCRIPTORS *Higher Education; *Needs Assessment; *Profile Evaluation; Program Evaluation; *Psychological Evaluation; Questionnaires; Seminars; Social Relations; Student Attitudes; Student Characteristics; Student Interests; *Student Needs
IDENTIFIERS *Birkman Method

ABSTRACT

The Birkman Method is proprietary, and consists of a battery of psychological instruments, an occupational interest survey, and associated reports, a self-awareness seminar based on the questionnaire, and the supporting computer software and data banks. The questions and occupations are designed to explore basic areas of a person's values, motives, and interests related to how a person adapts to and copes with life situations. In the Birkman Seminar individuals share their reports with their peers in a small group lead by a lay leader. The primary goal of the research at Austin College was to explore the possibilities of adaptation for general use with a college-age population within an academic program. This document reports the history and progress of the project. (Author/KE)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED125512

HE

Experimentation and Research

In

THE BIRKMAN PROGRAM

Of The

Austin College Total Institutional Project

1972 - 1975

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

HE 008 112

AC

Sherman, Texas-founded 1849

THE AUSTIN COLLEGE TOTAL INSTITUTIONAL PROJECT

CHANGING TASKS AND ROLES IN HIGHER EDUCATION

June 1972 - November 1975

National Science Foundation National Endowment for the Humanities

Experimentation and Research

in the

BIRKMAN PROGRAM

NEH Development Grant #ED71-28-72459
NSF CoSIP Institutional Grant #GY-10413

PREFACE

In announcing its grant in support of the Austin College Total Institutional Project, the College Science Improvement Program of the National Science Foundation described the Birkman Program in the following paragraph:

> "One of the more controversial techniques is the use of psychological tools to aid student personal development. These tools include a computerized personality test which has already been used in pilot cases involving students and faculty. The college has found it 'to be very useful in providing a vehicle for facilitating self-understanding and lubricating the processes involved in attitudinal change which is integral to structural change and student development'."

This report of Experimentation and Research in the Birkman Program reflects the complexity of this part of the Project in the variety of materials included. Research concerning the instrument itself and some aspects of the course context for its experimental use was separately contracted with the Birkman-Mefferd Research Foundation. Austin College is very grateful for the work of the Research Foundation under the leadership of its president Dr. Roy B. Mefferd, Jr., and his associate Dr. Timothy G. Sadler, and for their cooperation in accomplishing a suitable redesign of the research necessitated by the deletion of some related parts of the original proposal.

Throughout the course of this experimentation and research Austin College has also benefited from the sincere interest and generous cooperation of Birkman and Associates, Inc., the proprietary corporation, especially as expressed in our relationship with President Roger W. Birkman and Vice President John H. Brand.

Although there have been many problems--ranging from technical psychological research to adequate understanding and training of those involved--much progress has been made as indicated in this report. I personally am convinced that there is great merit in the Birkman approach and instrument as one of the most positive and least threatening devices for assisting in self-understanding. In this day of such complexity of our society and the choices that affect our lives, we need more than ever tools in education that can help us understand ourselves and our potential. I hope at Austin College and elsewhere this type of development may be further pursued to provide education with such a needed resource.

John D. Moseley, President
and Project Director

CONTENTS

General Description of the Birkman Seminar	1
Proposed Study and Negotiated Modifications	4
Narrative Report of the Birkman Program	5
General Conclusions and Prospects for Further Development	16

Appendices:

Appendix A: Research Reports of the Birkman-Mefferd Research Contract

The Birkman Method -- Reliabilities and Validities for Academic Use (1975)

"Final Report on the Validation Program of the Birkman Method for the Austin College Plan" (1976)

Appendix B: Cover Memorandum and Working Paper

"A Progress Report on the Birkman Method and Seminar, April 1974"

Appendix C: Revised Explanatory Materials

An Interpretive Handbook for Participants and a Seminar Guide for Lay Leaders

EXPERIMENTAL USE AND STUDY OF THE BIRKMAN METHOD AND SEMINAR

General Description of the Birkman Seminar

The Birkman Method and Seminar is a psychological profile instrument and procedure focused originally on applications in business and industry in relation to personal adjustment and job assignment. It was brought to the attention of Austin College in 1970 and was used first with administrative groups and afterward with a variety of other groups, including trustees, faculty and student planning groups, and experimental pilot programs for entering freshmen.

In many respects the Birkman instrument and procedure are quite similar to other kinds of psychological profiles. The subjects use from thirty minutes to an hour to respond to a three-part questionnaire: one part asks for responses to characterize the attitudes and experiences of most people, another part uses a noticeably parallel set of questions in inquiring about the individual's own attitudes and experiences, and the third part asks for indications of preferences within sets of occupationally related circumstances and tasks.

Responses to the first two parts of the questionnaire are used to produce first a set of twelve personality dimensions, and afterward by further processing a set of six descriptions each related to a "Basic Need" in social relationships. The computer program by which the processing is done discriminates 123 different configurations of

responses in choosing among the same number of different Basic Needs. These Needs are distributed among six categories or areas: (1) getting along with others, (2) giving and accepting directions, (3) handling conflict and competition, (4) maintaining emotional and physical stamina, (5) organizing and planning, and (6) making decisions. The computer print-out report to the individual respondent is in narrative form and in non-technical and non-clinical terms. The theoretical basis of this part of the report reflects some influence of Abraham Maslow's "self-actualization" theory.

Responses to the third part of the questionnaire are used to develop indices of interests, such as musical, clerical, scientific, for example. The computer report to the individual provides percentile values for these indices and also summarizes them first in four broad areas of interest and afterward in a single focus of interest on a graph used for describing the personality. Probably the most unusual feature of the Birkman Seminar is its use of a graphical summary of the results of all three parts of the questionnaire on a quadrant chart identifying the foci of usual behavior, stress behavior, and mode of seeking results.

The report begins with a letter briefly stating the person's behavior in each area when his or her basic needs in that area are met. This letter is a summary of the positive potential described on the six following pages. Although the program for reporting the results of the questionnaire discriminates only 123 different basic needs, these

are distributed over the six areas in such a way that over 62 million different combinations are possible.

Each page of the report describes the individual in one of six areas. The person's basic need in the area is stated in the center of the page. Above this statement is a paragraph or more describing the individual's potential for behavior when that need is met. And below is a description of how the individual may act when the need goes unmet.

To illustrate, the first page deals with Getting Along With Others. The statement in the center expresses a basic need in one of four general categories. (1) need for the approval and respect of significant individuals, (2) need for recognition and respect from groups, (3) need for both individual and group approval, and (4) need for relationships which are frank, direct, and straightforward. Of course, everyone has each of these needs to some degree, but one is usually dominant. With the dominant need stated for the individual, his or her style of behavior when that need is met or unmet is then given on the upper and lower parts of the page. The upper part concerns what is termed "strength behavior," and the lower part "stress behavior." All parts of the page are based on how the individual answered the questionnaire.

Thus, one individual page for this area may emphasize the need for a personal kind of approval from other individuals. The top half of the page describes the related advantage of sensitivity to the

attitudes of others and the potential for diplomacy and tact when such acceptance is felt. The bottom half describes the related vulnerability to self-consciousness, and to defensive or rationalizing behavior when such acceptance is not felt.

Another individual's page may emphasize the need for direct and straightforward relationships, with the top half focusing on the potential strengths of fairness and objectivity, and the bottom half reflecting the negative potential for misunderstanding the intentions of others and rejecting their emotional commitments as unrealistic, or even dishonest.

Each page for the six areas follows that format. The page does not say whether strength or stress behavior is actually operative; the person is encouraged to determine that by his identification with one part of the page or the other.

The report is designed to be largely self-explanatory. Individuals share their reports with a small group of their peers in a Seminar directed by a lay leader. The lay leader is usually someone who has taken the Birkman and had brief training to interpret it to others. In any case, professional psychologists are not essential for this task. The lay leader gives some background information, and the exchange of perspectives among the participants provides additional insights. Group interaction is important in such a Seminar, but the sharing of information about oneself is voluntary.

Proposed Study and Negotiated Modifications

The original plan of experimental use and study of the Birkman Seminar focused on the analysis and development of its potential for use with college freshmen as a part of a program for building self-understanding and self-direction, and included comparative studies and the use of control-groups in relation to an "Institute for College Self-Renewal." When it became clear that the Institute would not be funded, the plan was necessarily revised. Without the availability of the projected control groups, the studies of validity, reliability, and effectiveness became more dependent on the use of comparative instruments and other methods feasible within the Austin College student population.

The primary focus of the studies on the Birkman instrument was in the Birkman-Mefferd Research Foundation, a non-profit corporation authorized by the proprietary corporation to receive and conduct research with the new data in ways consistent with the protection of copyrights and of the secrecy of the computer processes. Austin College was to provide the Research Foundation with the data needed for its studies through the experimental use of the Birkman instrument with entering freshmen and through the administration of various comparative instruments and evaluation procedures.

The primary goal of the research was to explore the possibilities of adaptation for general use with a college-age population within a

program of academic orientation. Studies of validity and reliability were the primary responsibility of the Research Foundation, and Austin College was primarily responsible for the collection of data and for experimentation with a variety of procedures and contexts for the use of the Birkman Seminar. Revision of the instrument itself was left to the interests, opportunities, and resources of the proprietary corporation. Appendix A is the Technical Report and Supplement prepared by the Research Foundation as a result of their studies, and the next section of this report sketches the history of that part of the Birkman Program which was implemented on the Austin College campus.

Narrative Report of the Birkman Program

1972

In the spring of 1972, before anything was known of the character and scope of NSF funding for the Birkman Program, Austin College contracted with Birkman and Associates, Inc., to provide the Birkman Seminar for all the faculty and student participants in the 1972 Summer Resource Laboratory (SRL). The purpose of this arrangement included gaining a broader understanding of this portion of the proposed Total Institutional Project, and laying a foundation for the later development of Seminar "Lay Leaders" if this part received funding. Questionnaires were completed during the College Conference in May, and the staff of Birkman and Associates conducted Seminars for approximately a hundred Resource Laboratory Participants in June. In the evaluations by

participants of the various experiences of the 1972 SRL, the Birkman Seminar stood high in the rankings.

By the end of the SRL in mid-July, negotiations with the NSF had progressed far enough so that it was apparent that there would be some funding for the Birkman Program, though the specific character and scope were still uncertain. Consequently, arrangements were made to offer the Seminar to all incoming freshmen in the newly inaugurated Communication/Inquiry program the next fall. These arrangements included a training and selection program for Seminar Lay Leaders late in August, as well as plans for the administration of the questionnaire and the scheduling of the Seminars. Additional planning included the selection of comparative and supplementary instruments, and arrangements for their availability and use.

Thus, in the summer and fall of 1972, all incoming Austin College freshmen were offered four psychological questionnaires: (a) Survey of Study Habits and Attitudes, (b) Birkman Seminar, (c) 16 PF (Personality Factors), and (d) Strong Vocational Interest Blank. The first of these was sent to the students during the summer for response by mail; the other three were offered during the orientation period just prior to the beginning of the Fall Term. Data from all four of these instruments were made available to the Research Foundation, as it was clear by the beginning of the Fall Term that the proposed Institute would not be funded and that the experiment would depend heavily on studies using comparative instruments.

Meanwhile, ten Lay Leaders had been selected as a result of the special training program, and procedures had been devised for the freshmen to indicate agreement or disagreement with the descriptive pages of their reports both before and after the Seminar discussions. These responses were also to be reported to the Research Foundation. And by the time the Seminar reports were actually used by the freshmen, a further evaluation and validity procedure was ready for implementation using Adjective Check Lists specially devised by the Research Foundation. The College administered all of these instruments and procedures and sent collected data to the Research Foundation.

Also during the fall of 1972, the CoSIP Institutional Grant of the National Science Foundation was awarded and the Birkman-Mefferd Research Contract was revised accordingly. A short while later, the revised contract was endorsed by the NSF and made a part of the Grant program. Because of the timing of the NSF award, the summer's expenditures in launching the Birkman Program were not recoverable and were paid from institutional operating funds.

1973

During the winter and spring of 1973, the previous fall's experimentation with the Birkman instrument was evaluated for its implications concerning the procedures to be used the following fall. Special attention was given to the role of Lay Leader and the need for making this role more comfortable for a wider variety of faculty members. It had

also become obvious that the involvement of virtually all new freshmen, however important to the collection of research data, had produced more negative reactions to the Birkman than the College had seen previously in pilot groups and in the SRL. Although the freshmen were given the option of declining to fill out the questionnaire, it was presented as a regular part of a required course and administered when they had been on campus less than a day.

When the Advisory Panel of the Total Institutional Project held its first meeting in the spring of 1973, they expressed a keen interest in the Birkman Method and Seminar, which none of them were acquainted with. One of their decisions was that they should all experience the Seminar in connection with their second meeting the next fall. So, plans were made, and the questionnaires were sent out in preparation for a Seminar for this group of consultants and advisers to the Project.

Meanwhile, a modified training and self-selection process was conducted for those who might lead the Seminars in Communication/ Inquiry the next fall. The training was broadened to include all faculty who were assigned as instructors in the various sections of the course. Birkman and Associates provided, as in the previous year, for an introductory presentation by a member of their professional staff; and new graphics were prepared in an effort to strengthen the effect of the presentation. When the presentation was given, it was videotaped for the purpose of exploring the possibility of using this medium to obviate

the need for bringing a member of the professional staff in for that purpose. On the whole, the results of the videotaping were inconclusive, though it was clear that this particular tape would not communicate adequately the tone of the presentation. In fact, the tape seemed to by-pass the sympathetic character of the lecturer and to heighten the noticeability of some of the weaker aspects of the presentation.

Not long after the Birkman Seminar for freshmen, the special Seminar was held for the Advisory Panel. Reactions of Panelists were quite varied, but their discussions after this experience stressed the importance of the research into validities and reliabilities, and a careful screening of the claims and comments used in the presentations and explanatory materials. The Panel recognized that personality profile instruments were a generally neglected resource for aiding the self-understanding and self-direction of college students, and also recognized that the Birkman technique combining self-recognition with group-recognition in a non-clinical Seminar offered significant possibilities for overcoming some of the difficulties in broad-scale use of such instruments.

A progress report on the Birkman Program and a preliminary draft of the results of research into validities and reliabilities were promised for the third Panel meeting the following spring.

1974

By the time of Advisory Panel Meeting III in April 1974, the Project Office had prepared a Progress Report on the Birkman Program as a means of organizing and focusing discussions to be held jointly with the Panel, the president of the proprietary corporation, and the president of the Research Foundation. This document consisted of a brief cover narrative and working paper, portions of which will form the basis for some of the following sections of this summative report on the Birkman Program.

In the course of the conferences on the Birkman Program during two days of Panel Meeting III, general agreement was reached on several points. The Preliminary Technical Report had made a good beginning in providing the necessary basis of research by which the validity and reliability of the instrument might be assessed. There were various suggestions for the completion of this research and a general endorsement of its methodology. The Working-Paper did indeed identify the critical considerations by which future judgments should be made concerning the further use of the Birkman instrument in situations such as that at Austin College. Although several of the conferees expressed reservations about the prospects for achieving all of the kinds of further development projected, especially in those cases where supplemental funding would be required, there was virtually common consent that efforts in these directions would be appropriate. And the rather sketchy

projection of minor adaptations in the use of the Birkman with freshmen the following fall was generally endorsed in principle.

In preparation for the use of the Birkman Seminar in the 1974 Fall Term there was a very substantial revision of the written interpretive materials and special preparation of a new introduction to the seminar by Dr. Roger Birkman who developed the method and instrument. The results of the research process were important to the preparation of these new materials as there was now a much sounder basis on which to determine what claims might be made for the instrument. In the preparation of a new Interpretive Handbook for Participants and A Seminar Guide for Lay Leaders, the Research Foundation provided some notes and preliminary editing of the existing volume titled The Birkman Method; A Manual for Use With the Birkman Report. The general direction of development and the criteria for adaptation were taken from this preliminary work, and the several drafts in preparation were reviewed at different times by people of various interests and perspectives--Project staff, College administrators and faculty, students who had recently used the existing materials, a member of the Advisory Panel, and officials of both the proprietary corporation and the Research Foundation. Although there was not unanimity on every particular, all parties to the revision were well satisfied that the new material printed under Birkman & Associates copyright was a very substantial improvement for the purposes of the Austin College Birkman Program.

Along with the newly revised written material, and with editorial advice from the Project Office, Dr. Birkman prepared a twenty-minute audio-cassette introduction to take the place of the ninety-minute lecture presentation to introduce the Seminars. A special advantage foreseen in this adaptation was the opportunity for keeping the whole procedure in a small-group setting from the very beginning. To facilitate further use of the materials, the text of the audiotape was printed as an introduction to the revised Handbook. Appendix C is a copy of the 1975 reprint of the Handbook.

The use of the Birkman Seminar in the fall of 1974 also involved an attempt to provide the freshmen with a general context in which they might better comprehend the methods of personality profile instruments in comparison with other modes of inquiry. Because the task was very complex and the preparations were rushed--leading to the lack of any practical alternative to a rather brief lecture--the failure of this venture to achieve significant results was understandable. The audio-cassette introduction was also less effective than anticipated, partly because freshmen perceived it as too long for the limitations of a recorded monologue. So apparently this, too, needed further attention.

Another part of the 1974 adaptation was the deletion from the report given to students of the quadrant graph and the sheet reporting the results of the third part of the questionnaire, the part dealing with occupationally related interests. Students had on some occasions found the interests portion of the report to be rather disturbing because

of seeming conflicts between the report and the student's occupational ambition. For example, a student who intended to become a physician might find that he or she had a low score on "Social Service" and become anxious about the security of this vocational choice. The faculty Lay Leaders often found it difficult to deal convincingly and with confidence with problems arising from the terminology or from the complexity of the matters summarized in the graph. For these reasons, and in view of the fact that some psychologists who were consultants to the Project regarded the graphical representation as little more than gimmickry, these portions of the report were withheld from the Seminar participants.

On a more positive note, the main volume of the Technical Report by the Research Foundation was ready for presentation to the Advisory Panel in its fourth meeting in December of 1974. Adjustments had been made and new studies had been added since the review of the Preliminary Report the previous spring. Not yet included were the results of correlations with the data collected through the administration of the Personal Orientation Inventory (POI) in the fall of 1974 and the on-going use of the Survey of Study Habits and Attitudes (SSHA). But this first volume of the Technical Report did reflect the generally positive results of two years of retests of college-age subjects.

1975

Early in 1975 the Project staff were working both separately

and with Birkman and Associates to design an introduction to the Seminar that would have the clarity and control of the audio cassette and do a better job of holding the attention and providing a positive affective experience. Drafts of scripts were prepared with still some uncertainty as to the appropriate medium--whether film, or videotape, or synchronized slide-tape. At the same time, consideration was also being given to non-print media for communicating about various parts of the Project. Several considerations argued against videotaping for the Seminar introduction. Production costs would be relatively high, and the Project staff would not be able to take the time necessary to oversee the development of a technically professional product. Furthermore, videotape would not provide either the flexible scheduling available through the use of multiple players or a large audience presentation without incurring the additional expense of equipment for video projection.

The practical choice for the Seminar introduction seemed to be synchronized slide-tape. The newly available Caramate projector could provide portability in scheduling for small groups, and the same tape cassette and slide carousel could be used on other equipment for large group presentation. And since much of the information needed in the Seminar introduction would also be appropriate for a report on the Project's Birkman Program, the script and slides were designed so as to make the introduction serve as well

as possible as a partial report on the Birkman Program.

While the planning and production of the slide-tape presentation was being done at Austin College, Birkman and Associates were completing and experimenting with a set of video cassette recordings to be used for supplementary interpretation of the Birkman Reports with their clientele in business and industry. Thus, in a summer conference involving Austin College, the proprietary corporation, and the Research Foundation, some of these video cassettes were examined in a context of exploration of available means for continuing the experimentation to find ways of making the Birkman Program most effective. There was also consideration of the costs of processing and of the needs for adaptation of the questionnaire. Birkman and Associates had very recently conducted an analysis of their costs for materials and processing and had determined that the targeted price per report was still quite far below their costs. There were prospects, however, of meeting this target price at some future date using a shorter questionnaire then in preparation if they could also gain significantly on processing costs by a much higher volume of business. Yet there was still much work to be done in proving the new form of the questionnaire, in revision of the language of the individual reports, and in further revisions of the interpretative materials. There were also plans for completely restructuring the presentation of the graph and the

interests page to make these suitable for college freshmen.

In the interest of further experimentation, Birkman and Associates offered to provide Seminar materials and processing for a portion of the 1975 freshman class at a price well below their own cost and to lend a set of the video cassettes for experimental use in interpreting the reports. Thus, it was agreed that approximately one-third of the incoming freshmen would have a form of the Birkman Seminar relying primarily on the video cassettes and written materials for interpretation. A second third would use only one of the video cassettes and pursue most of the interpretation with a faculty Lay Leader and Seminar interaction. The other third would use alternative instruments and procedures for understanding themselves and others. Although the routine and established methods of placement in groups would provide only a very loose approximation of a control group, it was hoped that the course evaluation questionnaires might provide clues as to the most appropriate lines of further development.

The approach outlined in the summer conference was implemented the next fall. The two-thirds using the Birkman had a common first phase of the Seminar viewing the slide-tape introduction and then the video cassette interpretation of the first guide page of the report. Thereafter, half of these groups continued with other video cassettes and the other half in interactive Seminars

with Lay Leaders.

Among the items on the course evaluation questionnaire was a set of twelve "Goals Related to Self-Awareness" developed by the Research Foundation as a means of eliciting freshman testimony concerning the effectiveness of the Birkman Seminar. Because these goals seemed generally suitable for one of the dimensions of the Communication/Inquiry course regardless of whether or not the Birkman instrument was used, all freshmen were asked to respond to this part of the questionnaire. On a five-point scale (five high) mean scores for all nineteen sections of the course on all twelve items averaged 3.71, whereas the average mean score for the six sections not using the Birkman was 3.79. Non-Birkman sections averaged higher on nine items, lower on two, and the same on one. The differences were not great, and the variables present in the method of placement of students in the various sections would be more than sufficient to account for such differences.

A pair of related questions, but more generalized and direct were asked only of those freshmen who had used the Birkman instrument: "Did the Seminar expand or change your view (a) of yourself? (b) of other people?" Concerning self, 112 respondents marked yes and 98 marked no; concerning others, 112 marked yes and 97 marked no. In this pair of questions the evidence is positive, though not overwhelming. One can only speculate as to the probable

responses if such questions had been asked concerning any of the alternative instruments and procedures.

There is some reason to believe that the weak ratings of the Birkman Seminar were due in part to predominately negative responses to the video cassettes that had been prepared for use with a different clientele. Freshmen who used the Birkman were asked to rate these particular cassettes and separately to rate the use of television as a medium for interpreting the reports. Average responses were negative in both instances but more sharply so in evaluating the suitability of the television medium.

Looking back over the experiences of these four years, hindsight suggests a possible error in the eagerness of the College and of the Project Leadership to maximize the research data by gaining the nearly universal participation of the freshman class. The option to decline to complete the questionnaire was conscientiously given to all the freshmen, but the circumstances militated against such a choice. And, to insure the readiness of the section leadership in Communication/Inquiry, this option to decline was not made available to the faculty in the course. In the context of a new educational program with sharply reduced core requirements, multiple tracks for degrees, and emphasis on individualization and self-direction, the administration of the Birkman Program sometimes seemed an anomaly. Thus this concession to the interests of research

might have contributed significantly to the loss of the very positive attitude that was obvious when the Birkman Seminar was viewed as an elective opportunity.

General Conclusions and Prospects for Further Development

The issues to be addressed in the experimental use and study of the Birkman Method and Seminar and the questions to be answered at the conclusion of the Birkman Program of the Total Institutional Project were outlined in a "working paper" in 1974. As this report has already indicated, this working-paper was prepared by the Project Office and used as a means of guiding a conference in which Austin College personnel were joined by the Project's Advisory Panel and by representatives of Birkman and Associates, Inc., the corporation holding proprietary rights to the Birkman Method and Seminar, and of the Birkman-Mefferd Research Foundation, contracted to conduct the research. Key elements in this working-paper (all of which is reproduced in Appendix B) will form the framework for this final section of the report on the Birkman Program.

The working-paper is divided into four sections marked A through D. Section A, labeled General Rationale, presents a description of the general character of this experiment and study and of the context of the Austin College program in which it was centered. It then concludes with the following:

. . . a set of judgments that must be made at a later time both by Austin College and by any other institution considering the use of the instruments and methods to be developed out of the current process of inquiry and adaptation:

(a) Does the "Birkman Method" as adapted for college use have significant positive value for most of those college freshmen who experience it?

(b) Is it "safe" enough even for the more fragile personalities when administered using Seminar leaders who have had a brief orientation and training but are not professionals in clinical psychology?

(c) Do the explanatory materials and presentations give a fair-minded representation of the processes and their theoretical bases and of the validity, reliability, and pertinence of the information provided in the individual reports?

(d) Even if this representation is quite defensibly fair-minded from the perspective of a psychologist, is it sufficiently understandable for the average college freshman?

(e) Given the whole set of needs and costs in higher education, and in the light of a comparison of costs and values with those pertaining to alternative instruments and procedures, would investment in the instrument and procedure developed out of the current study reflect a responsible stewardship of institutional funds?

Because both the Project leadership and the program officials of the NSF (which is underwriting most of the inquiry and evaluation effort) believe that the needs are significant and that the Birkman Method and Seminar has great potential for meeting many of these needs, we earnestly hope that the answer to each of those questions will be affirmative. We not only hope for that result but also are dedicated to exploring every honest and respectable means for achieving that result. But, of course, we must be prepared to deal candidly and responsibly with the results of these efforts if they should prove to be less than we hope for and are working toward.

These questions must now be answered. The first question (a) on the positive value for college freshmen can be answered with a qualified yes, with reservations about the degree of significance. The direct responses of the freshmen themselves raise questions about how realistic their expectations, their standards, or their self-perceptions might have been; yet other measures of positive value are even more confounded with the innumerable other variables in the whole process of education. It is the observation of the Research Foundation that the first three years of general use showed a high correlation between the ratings given by students to the Birkman experience and to the other parts of the Communication/ Inquiry course. Although an attempt was made in 1975 to compare groups using the Birkman with groups not using the Birkman, the variables from group to group made the results inconclusive. However, a lack of enthusiasm for the Birkman Seminar is evident in the findings of the In-Depth Interview report prepared in the spring of 1975 and used in the evaluation of the program and project.

The second question (b) on the safety of the instrument with non-professional Lay Leaders can be answered much more positively. Although informal reports from the College's Counseling Center have contained references to the aggravation of adjustment problems for a few students, none of these instances has been seriously traumatic and most have had only a rather dubious connection with the Birkman

experiment. Furthermore, well qualified psychologists serving as consultants to the Project have examined the instrument with some care and expressed complete confidence in its safety. It should be acknowledged, moreover, that the practical needs of the course context of the Austin College experiment with the Birkman provided for less selectivity in the choice of Lay Leaders and less training for them than the proprietary corporation had anticipated.

The third question (c) on the accuracy of the representations made in the explanatory material can now be answered affirmatively with respect to the revised Interpretive Handbook, though the research conducted in the Birkman Program clearly identified some exaggerated claims in the materials used earlier. There are still some parts of the interpretive material that are noticeably sketchier than the other parts, but the information needed to fill them out involves some of the trade secrets of the proprietary corporation in the computer programs for processing the responses.

With regard to the fourth question (d) concerning the clarity of the explanations for college freshmen, it is much more difficult to give a positive answer. Certainly many freshmen have developed minor misunderstandings, but the fault may lie with the failure of the program to motivate these students adequately. "Can they understand?" may be a quite different question from "Do they understand?" Indubitably, the new materials speak not only more accurately

but also more clearly and directly to college freshmen, but there is a strong possibility that these materials are not yet presented in their clearest, most attractive, and most useful form.

The fifth question (e) on the stewardship of institutional funds presents some complications. It has become increasingly clear both that the question of value in relation to cost depends very greatly on the context in which the Seminar is used and that the context provided in this experiment put the procedure at a considerable disadvantage. There is reason to believe that the value of the Seminar would be much greater in a context providing more selective and better trained leadership, more time for the Seminar and follow-up, and more clearly elective participation. In budgeting for the next year's Communication/Inquiry course during the fall and winter of 1975-76, the judgment was made that it would be wise to pursue the general aims of self-understanding with instruments and procedures of other kinds. Though nothing fully comparable has been found, the scope of the course gives occasion for the selective use of a variety of diagnostic tools.[1]

The College received notification in early April of 1976 that Birkman and Associates had achieved a significant breakthrough in lowering the costs of materials and processing. The report of this

---

[1] The success of Birkman and Associates in lowering the unit costs to the targeted figure now opens the way for elective use of the Birkman in sections of the Communication/Inquiry course in which the leadership is best prepared to realize the Seminar's potential values for entering freshmen.

price breakthrough and of still further improvements in materials makes the Birkman Method and Seminar even more appealing for use in any of several contexts that will permit its potential value to be realized better than in the experimental program in the Communication/Inquiry course.

Section B of the working-paper outlines the plan for the use of the Birkman Seminar in 1974 under the heading "Brief Sketch of a Projected Schedule for Using the Products of Adaptation." Because this plan is necessary background for some of the later references to materials projected for development, a summarizing paragraph from this section is quoted here:

> The projected use of the basic program of the revised Birkman materials would involve three stages: first, an invitation to all entering freshmen to fill out the Birkman Questionnaire and a preliminary explanation of the potential values of this procedure and of the uses to be made of responses to the instrument; second, an orientation session and small group Seminars in which each participant would receive his individual report and a copy of the newly revised interpretive manual and would be encouraged to maximize his learning opportunities through the interaction of voluntarily sharing portions of his report with the others in his group; and third, a session in which the basic procedures and standards of psychometric inquiry are described and discussed, and in which special attention is given to the validities and reliabilities of the Birkman instrument in comparison with other psychometric instruments of the students' acquaintance and with other modes of intellectual inquiry.

Section C, titled "Topical Summary of Adaptations of Materials," presents the product of several months of analysis and of interchange between the Project leadership and both the Research Foundation and

the proprietary corporation. Brief commentary will follow the quotation of this set of particulars:

1. First, and already well underway, there is a need for a Technical Report on the basis of which one may be able to make reasonable judgments about what personality factors the Birkman Method measures, how accurately it measures these factors, how stable these factors (or their measurements) are for college freshmen, and such questions properly affecting how one should interpret the Birkman reports and thus what an interpretive manual should say about such matters.

2. Second, further consideration should be given to the proposed division of the present instrument into two parts: (a) a revised basic instrument either excluding or subordinating the "Interests" segment and used with lay leadership in the three-stage mode described in Section B above, and (b) a substantially strengthened instrument for career guidance to be used with the professional counseling staff of the College or other institutions. Of particular concern in this regard is the preponderance of testimony from lay leaders at Austin College. Many have felt relatively secure in dealing with the Report pages describing basic social needs and the consequences of their satisfaction and frustration but have felt quite inadequate both in handling the placement of the Interests asterisk and in responding to student anxieties related to an apparent disparity between their interests profile and their intended career choices. Another concern which this adaptation might effectively respond to is the needed reduction of unit costs for the basic instrument.

3. Third, there is a need for a complete rewriting of the interpretative "Manual." Here the first consideration would be that it accurately reflect the results of the investigations reported in the Technical Report. With almost equal importance, though of a different kind, it should be addressed more directly to the collegiate audience. In this respect, problems with the existing manual involve primarily matters of style, attitudes, frames of reference, and kinds of sophistication. Appeals to authority, unacknowledged oversimplification, illustrative stories that are either quaintly old-fashioned or narrowly focused on business management, and even

slight suggestions of sexual or ethnic discrimination, are all impediments to the usefulness of these materials with today's college freshmen and embarrassments to many of the academics who deal with them.

4. Fourth, it will be specially important to give very careful consideration to choices of the appropriate and effective setting, media, content, and structure of the third stage of the educational context described briefly in Section B above. There is no point in pretending this will be easily done, because it seems a formidable task from the present perspective of the Project leadership. Yet on the accomplishment of this task may depend the whole question of whether the Birkman Method and Seminar can be adequately adapted for on-going use in a collegiate setting. Nevertheless, we believe this can be done and that an important contribution would result, and perhaps we may find substantial help in this task from sources not yet identified.

As to the progress made in the matters of adaptation identified, item 1 has been handled quite satisfactorily; the Technical Report is attached as Appendix A. In regard to item 2, the division of the instrument into two parts was achieved in a degree by withholding the graph and interests portions of the reports and by deleting references to such material in the new Interpretive Handbook and Seminar Guide for Lay Leaders. The projected secondary instrument for career guidance is under development, but new methods of dealing with the graph may prompt a different kind of division than was envisioned in April of 1974. Regarding item 3, the rewriting of the interpretive material was accomplished with considerable success in time for use with freshmen in 1974--though, as already pointed out, it still had gaps or weak parts and is undergoing a further revision. The

changes made in the 1974 revision are illustrated in the 1975 reprint in Appendix C. As to item 4, it was expected that the task would be formidable, but the growing resistance to whole-course experimentation in Communication/Inquiry was seriously underestimated. But the wording of the criterion may be misleading because it fails to make explicit the assumption that the "collegiate setting" referred to would be comparable to the Communication/Inquiry course. The frustration of the Austin College attempt to integrate the Birkman Seminar satisfactorily into the context of this initial core course has no necessary implications for its usefulness in other contexts.

Within this course context, the results of the Birkman Program of the Total Institutional Project have been disappointing. The experiment sought an approach that could be used across the board with all students. Thus the Seminar was offered as an integral part of a required course taught at various times by virtually all the faculty of the College. Although participation was voluntary, the student had to take the initiative not to participate. The results of this experiment do not speak to the use of the instrument in an elective setting where each individual would take the initiative to participate, or to a situation permitting more selectivity in the choice of Seminar leaders. The leadership of the College and of the Project are still convinced that the Birkman Method and Seminar has great potential for meeting a need in higher education for such a participatory method of heightening the understanding of self and others.

APPENDICES

APPENDIX A

THE BIRKMAN METHOD

Reliabilities and Validities for Academic Use

April 15, 1974

TABLE OF CONTENTS

	Page
Purpose	
Goals in the use of the Birkman Method in the Austin College Program	1
The Birkman Method	
The Birkman Instruments	3
The Birkman Seminar	10
Reliabilities	
Internal Consistency	13
Test-Retest	13
Stability	15
Factor Structure	26
Effects of Statistical Dependencies among the 48 Basic Variables used in the Birkman Method	37
Effects of Various Response Tendencies	40
Demographic Correlates of the Birkman Method Variables	43
Correlations with Other Psychological Instruments	
Personality Measures	44
Kuder Occupational Interest Survey	69
Strong Vocational Interest Blank	78
Validities	
General	85
Stability of Needs	99
Verbal Comprehension	103
Cultural and Sexual Fairness	104
Conclusions	122
Appendix I	123

Technical Report 1

Austin College, Sherman, Texas

THE BIRKMAN METHOD
RELIABILITIES AND VALIDITIES FOR ACADEMIC USE

Roy B. Mefferd, Jr., Ph.D.,
Timothy G. Sadler, Ph.D.,
and Roger W. Birkman, Ph.D.

The Birkman-Mefferd Research Foundation
Houston, Texas

PURPOSE

The purpose of this report is to present data on the use of The Birkman Method in an academic setting.

Goals in the Use of The Birkman Method in the Austin College Program

Some of the concepts being tested at Austin College hinge around the rapid development of maturity by new students -- self-discipline, adjustment, independent thinking and decision-making. Central to this aim is an increased awareness and understanding of one's self and a realization that one can interact successfully with others even though the others may be vastly different.

In an effort to forestall the early loss of motivation, interest, and direction suffered by so many freshmen newly away from home and parental guidance, the first seven weeks of exposure at Austin College are designed to prepare the student for this process. The Seminar portion of the Birkman Method is one of these procedures intended to fill the defined need for increased self-understanding.

The copyrighted Birkman Method evolved in business and industrial settings where validation rests on measurable changes in motivation, performance, and stability that are reflected directly in dollars and cents. Construct validity is of secondary concern so long as the use of a procedure is accompanied by changes of economic importance. In the business and industrial context it is virtually immaterial whether changes result from a procedure per se, or from the situation that led to its use. In an academic setting, validation of a procedure is neither so simple nor straightforward. Both the definitions of success and the criteria for measuring successes in that environment are much more complex than is usually recognized.

As in the business or clinical world, judgments about validity are confounded by the context of presentation and by other concomitant procedures merging with it. How does one "validate" a complex procedure such as transactional analysis? Even more diffcult is the validation of one particular procedure that is buried within the maze of a more complex one. This is the case of the Birkman seminar as just one part of the Communication/Inquiry program.

This report summarizes the data available to date on reliabilities and validities of the Birkman Seminar and of its supporting instruments as used in an academic setting. It compares results from the Birkman instruments with those of other popular instruments. Occasional gaps in this information are filled by the use of data from non-academic groups. Several comparisons are made of the results of college students with those of subjects actively employed in business, industry and the professions. The

complicated problems involved in the achievement of fair employment practices are treated in the final section entitled Cultural and Sexual Fairness.

THE BIRKMAN METHOD

The Birkman Method evolved over a continuous 20-year period in business and industrial settings (Birkman, 1961). To date approximately 50,000 individuals of many levels and classifications have completed the Birkman Questionnaire. This number includes hundreds of public school and college teachers, scientists, engineers, lawyers, physicians, accountants, psychologists, ministers, and other professionals. It includes several hundred children of public school age (9-11) and more than a thousand 18-20 year old youths in and out of college. Both sexes are well represented, and, recently the sample was expanded to include hundreds of Blacks and Chicano's of both sexes. Over 25,000 of these subjects have had their performance on the job or in school rated in various ways, subjective and objective, by their superiors. This large heterogeneous sample of subjects constitutes the current data base supporting the Birkman Method. In the industrial usage of the Method, an active program of reliability-validation up-dating is maintained. Much of these data were made available in a recent report of the Birkman-Mefferd Research Foundation entitled, "The Birkman Method for Manpower Selection, Classification, Assessment, Motivation, Counseling and Training" -- its reliabilities and validities as of March, 1972 (Mefferd, 1972).

The Birkman Instruments

The Birkman Method is proprietary, and consists of a battery of psychological instruments, an occupational interest survey, and

associated reports, a self-awareness seminar based on the questionnaire, and the supporting computer soft-ware and data banks. There are two questionnaires, each consisting of the same 125 non-threatening questions to be answered as either True or False, in one case as they apply to oneself -- SELF, and in the other case, as they are believed to apply to MOST PEOPLE. The INTEREST survey consists of 48 groups of four occupations each. From each of these quartets, the person makes a first and a second choice of preference.

The questions and occupations are designed to explore basic areas of a person's values, motives, drive, interests, and the like that are related to how a person adapts to and copes with life's situations. 346 answers are summarized into 10 basic scores each for the SELF, MOST PEOPLE and INTEREST SURVEY (Table 1). Each of these 30 scores is a sum of the answers from a half dozen or so questions. With one exception, Individuality, a given item is used in one score only. The scoring system is compensatory, and no one answer can exercise decisive influence on a basic score. The 30 basic scores are themselves summarized into 18 higher order scores derived from various combinations of the basic scores (Table 1). The derivation of these 18 scores is proprietary and confidential. These combinations measure a number of interactions that are not apparent from the basic scores themselves (e.g., the relation between the two answers on the same question when answered for SELF and for MOST PEOPLE). Each of these 18 derived scores is based on a large number of answers, at least two dozen in each case, and in some cases on many more answers. Thus, the answer to any individual question or the selection of any specific occupation

Table 1

Scores Derived from the Birkman Instrument

Component	Abbreviations	
	MOST PEOPLE	SELF
Questionnaire		
Individuality	MIN	SIN
Self-consciousness	MSC	SSC
Dominance	MDO	SDO
Materialism	MMT	SMT
Insistence	MII	SII
Sociability	MSO	SSO
Restlessness	MRE	SRE
Energy	MEN	SEN
Indecisiveness	MID	SID
Depression	MDE	SDE
Derived Scores[1]		
D1	M-S	
D2	M	S
D3	M	S
D4	M	S
D5G	M	S
D6G	M	S
D7	M-S	
D8I	-	-
D9I	-	-
D10I	-	-
D11I	-	-
D12IG	-	-
D13IG	-	-
Interest		
Persuasive	PER	
Social Science	SS	
Scientific	SCI	
Mechanical	MECH	
Outdoors	OUT	
Clerical	CLK	
Numerical	NUM	
Artistic	ART	
Literary	LIT	
Musical	MUS	

[1] The derivation of these scores is proprietary and confidential; M is derived from MOST PEOPLE, S from SELF, I from INTEREST, G signifies a variable used in the graphical summary of the Birkman Method.

has little influence on the final score -- one question in a given set may be answered False and another True, or vice versa, with exactly the same result. The items are considered in their aggregate.

The scores were developed in accordance with a definite theory of the relationship of behavior to life situations. Each question is phrased so as to sample a given well-recognized psychological attribute such as Self-consciousness or Sociability. The ten psychological attributes used in the Birkman procedures are not intended to be all inclusive or to describe a person's behavior completely. Further, the accuracy of a person's answers (i.e., whether he really is "easily upset by things", or not), is not the primary concern -- it is his answers per se that are important, and how his pattern of answers matches or fails to match those of group patterns of a variety of types, occupations, and the like. The ten attributes used have been found to describe aspects of behaviors that are related to life situations (e.g., Justice and Birkman 1972).

The same considerations apply to the occupational interest survey -- people have interests that result in their selection of occupations in characteristic clusters. The specific occupations often may appear to be unrelated. Each occupational interest cluster is composed of several different occupations (e.g., there are a possible two dozen or so occupations involving persuasion and public contact which are individually contrasted with six dozen or so non-persuasive and non-public contact occupations, and so on). As was also the case with the questionnaire, failure to choose a few critical occupations in a cluster for whatever reason, as well as the selection of a few contraindicated occupations may

be compensated for by the selection of other pertinent occupations. Uncertainty or unfamiliarity about the parameters of one, or even of several occupational titles is compensated for by the selection of other related common occupations. Uneven familiarity with the occupations in a quartet is further compensated for by the fact that two occupations are not selected, permitting dislikes to enter directly into these selections.

The use of an occupational interest survey with youths of high school and early college age may appear to be of limited value for several reasons. These include the questions of malleability of interests, sex differences, unequal familiarity with choices, etc. These points must be considered when using any interest survey in an academic setting.

A common belief is that youths often have rather amorphous, nebulous interest patterns -- that they do not really know where their interests lie -- that their exposure and experience is of too limited a range to permit their evaluation on a occupational level (however, see the discussion of Strong's 1953 experiment below in this section). The assumption is tempting that interests can only be surveyed by use of activities which a person has sampled, experienced, or at least observed in some detail. However, as will also be discussed below, Campbell (1969) observes that the most powerful part of the Strong survey is the part involving the direct selection of occupational likes. The Birkman Method assumes that a valid assessment of students' interest patterns will result by comparing their patterns with those of people in the vocational-occupational pool. It is another question requiring extended research whether course selection, course performance, school persistance and the like are predictive of career choice, career satisfaction, career success.

One major objective of higher education is to prepare the student for entry into the world of work. Boys from time immemorial have spent a great deal of their youth pondering a range of occupational choices. Girls of today are rapidly expanding their range of occupational considerations, and appear to be thinking sooner in life and for longer periods than in earlier times about their future role in the world of work. Even in the face of these differing levels of vocational integration, a high degree of familiarity with specific activities does not appear to be required for the determination of interest patterns. A young person need not know what a forest ranger does in detail to know that he is interested in general in outdoors occupations. As will be shown later in this report it appears to be immaterial whether general interest patterns are inferred from the pattern of occupational choices, as with the Birkman Interest Survey or in part by the Strong Interest Survey (Campbell, 1969), or whether occupations are inferred from the pattern of interests in general activities as with the Kuder (1964) and Strong instruments. Reliable measurements of occupational interests may be obtained from either type of instrument. However, the occupational approach yields a direct non-inferential statement about occupational interests -- one that is based not on mere positive selection of specific occupations, but also on the rejection of other specific occupations. One need not infer an interest in the health professions on the basis of generalized avocational interests -- many people of occupations other than the health professions also may choose to read a book in preference to any of a number of other activities. On the other hand, even before high school, children know in general what

physicians, nurses, dentists, veterinarians and the like do, and whether or not this kind of vocational activity interests them.

A number of psychometricians have concluded that expressed choices or interests have predictive validities at least as high as that provided by the Strong Vocational Interest Blanks or other inventories (e.g., Dolliver, 1969; Whitney, 1969). Noris and Katz (1970) concluded that by early adulthood, interests were sufficiently integrated and coherent so that the results of expressed interests were very much the same as inventoried interests. Strong himself (1953) querried the 1930 Stanford University Freshman Class about their choice of future occupation. When he examined the actual occupation-engaged-in in 1949, he found that from 38 to 61 percent had entered and continued in the occupation of their early choice. The range in percentages he noted depended on whether or not "don't know" responses were included, and on the interpretation of the choice "business". These are especially impressive results when one considers the career-wracking effects of the Great Depression and of World War II that cut across the careers and lives of this class of freshmen.

All interest surveys share a common problem -- the culture in which an individual lives -- and his personal history in it exercises powerful influence on his activities and his occupational consideration and choices. In our culture there has been a historical polarization of interests along sexual, ethnic and socio-economic lines. Every instrument will reflect these factors (e.g., see the discussion of the use of male norms to predict females in the Kuder survey to follow). Also reflected will be the imperfectly defined interest patterns of youths. Many years of results show that the largest source of variance influencing the magnitude of

test-retest correlations in interest inventories is the age at which an individual is tested (Campbell, 1969). Below 21 a high level of change must be expected. A number of factors are involved in this instability. The departmentalization along topic lines in universities often bears little direct relationship to the occupational structure of the world of work. For example, our educational institutions place relatively very little emphasis on persuasive occupations. The interest patterns of the young will expand, gaining depth and definition with education and exposure. It is a moot question which survey method is the least susceptible to this influence -- the direct occupational or topical approach or the indirect approach. The questions really reduce to (1) whether a given instrument is reliable and is valid at one point in time for the group tested -- does it reflect their present interest pattern? (2) is it compensatory; and (3) does it provide an adequate range of choices for all regardless of sex, ethnic group, educational level, and so on. For the present, all instruments involving interests and their supporting norms reflect past traditions rather than future opportunities.

The Birkman Seminar

Several days before a seminar starts, each participant completes the Birkman Questionnaire. These are scored, and appropriate narrative statements are selected from a library of statements and combined in a computerized operation. The scores developed for narrative statement selection are based on interactions between a person's perceptions of himSELF and MOST PEOPLE.

Six behaviors were selected from among the large pool of possible behaviors for concentrated consideration: getting along with others, giving and accepting directions, handling conflict and competition, maintaining emotional and physical stamina, organizing and planning activities, and decision making. Each of these six behavioral areas is described in terms of 20-22 discrete locations (i.e., scores) spaced along a continuous dimension that is analogous to a dimension of individual differences (e.g., getting along with others). The intervals between the scores which result in the selection of each of the 20-22 alternate (graded) narrative descriptions are based on actual rectangular distributions of the scores on which the behavior is based.

The language used in the narrative statements is intended to be positive in nature, emphasizing the recipient's behaviors that give him strength on the pertinent dimension, while minimizing his weak behaviors in a way to avoid "putting him down". A narrative page is organized around a general need relative to the pertinent behavior (e.g., getting along with others). The statement of this need is centered on the page. Above this need statement positive statements of available behaviors are printed which provide strength in meeting the need, (when there is no frustration caused by obstacles or conflict). Statements are printed below the need that are descriptive of "stress" behaviors to be expected when the person's need is not met, when frustrations are encountered. While all of the specific behaviors described relative to any particular need will seldom be encountered on one occasion within a given person, almost everyone recognizes at least one of the specific responses described on a given occasion. This recognition facilitates full participation in the group interaction of the Birkman Seminars.

The narrative statements provide the vehicle for the procedures used in the Birkman Seminars. Increased awareness and understanding of self and others is developed around active participation of everyone in each group in discussions of the six behavioral areas. The seminar environment is intended to establish and maintain a receptive, perceptive and introspective attitude on the part of the participants such that the application of this process to self-analysis will facilitate realization of some of the reasons behind a person's past successes and failures. Comparison of his own patterns of behavior with those of others in this non-threatening live and let-live environment are intended to broaden his understanding of the behavioral patterns of others. The emphasis is upon <u>understanding</u> and <u>adaptation</u>, rather than upon <u>change</u> to fit some preconceived model. The effectiveness of the Birkman Method lies in the <u>degree</u> to which the person continues this perceptive, self-analytical process on into the future.

In terms of Maslow's (1954) self-actualization theory the emphasis of the Birkman Method centers on the intermediate level of psychosocial needs -- self-esteem, belongingness, love. This is the level at which much of the failure occurs in the world of work for which the student is preparing. Until and unless the needs of this level are met, the higher level self-actualization needs (i.e., meta-needs) -- beauty, truth, meaning, transcendence -- cannot be met. Concomitant consideration of a person's interest pattern at this time is relevant. In a world of work, a major cause of job failure lies in a mis-matching of a job and a person who has an occupational interest cluster that is different from that of most other people working in that job. A major advantage of the Birkman Seminar lies in its consideration of and basis upon

the individual differences of its participants. This makes it ideally suited for extension into consideration of the higher level, meta, needs of Maslow.

RELIABILITIES

A necessary, though not sufficient, condition for any type of validity is that the instruments involved be reliable. Reliabilities have to do with the characteristics of an instrument per se, and they may relate to individual items, to scores derived from these, or to overall scores, or to predictors made utilizing any of these scores.

One type of reliability -- internal consistency -- relates to the homogeneity of the items within the instrument, the degree to which they measure the same thing(s). When the instrument contains a mixture of items designed to measure different attributes, as with the Birkman instruments, multiple items relative to each of the different categories must be well dispersed within the form. Using 120 items of the SELF and of the MOST PEOPLE forms, Odd-Even item reliabilities were computed for a variety of samples, including the 1972 Austin College freshmen and a sample of 9-11 year old children of assorted sex and ethnic groups, each with at least 100 subjects. These reliabilities ranged from .64 to .90, uncorrected for test length. When corrected for length (using the Spearman-Brown formula, Guilford, 1954), this range was from .78 to .95 (Table 2). Thus, internal consistency in the True-False answer patterns across the items throughout the forms is satisfactory.

Other types of consistency that are of special importance with a sample of young developing adults are the test-retest and the stability reliabilities of the forms. Even in immediate re-

Table 2

Odd-Even Reliabilities (Internal Consistency) of the

Items of the Birkman Questionnaire

Sample Nature	N	Form	Correlation[1]	Corrected for Test Length[2]
Adults				
1972 Freshmen Austin College	318	MOST PEOPLE	86	92
		SELF	87	93
Salesmen, males	109	MOST PEOPLE	79	88
		SELF	86	92
Mixed, "Good" Employees	100	MOST PEOPLE	86	92
		SELF	87	93
Mixed, "Poor" Employees	100	MOST PEOPLE	80	88
		SELF	79	88
Male, Prisoners				
First Test	42	Both	79	88
Retest	42	Both	64	78
Children				
Mixed, 9-11 years of age	132	MOST PEOPLE	84	91
		SELF	90	95

[1] Pearson product moment coefficients with the leading decimal point omitted.

[2] Spearman-Brown formula (Guilford, 1954).

testing situations the forms are sufficiently long to negate memory as an important factor in influencing retest correlations. Thus, the immediate test-retest correlations that were obtained from 42 white prisoners (Table 3) indicate valid reliability. The smallest correlation for any of the scores derived from the MOST PEOPLE and SELF questionnaires was $r = .69$. Even more indicative of reliability is the fact that a discriminate function analysis between these test and retest scores failed to discriminate the two sets of results at the $p = .05$ level (Anderson, 1958).

In an earlier study of 132 children (ages 9-11)of mixed sex and ethnic groups, about half of the item-by-item correlations of forms completed two weeks apart were above $r = .60$, and for almost all of the 120 individual items, the reliabilities were significantly different from zero (Table 4). When the 10 component scores of the children for the SELF, MOST PEOPLE, and INTEREST surveys were considered, every correlation except one Interest component and its associated Derived Score, exceeded r's of .60 (Table 4). Short-term test-retest results such as these indicated that there is a significant tendency even for children to answer the questions the same way both times.

When this test-retest technique is used across a longer time frame to estimate stability of young people in their formative years, systematic maturation-related changes in interests, motives, and attitudes should be revealed. For this, 50 Austin College sophomores repeated the Birkman questionnaire 15 months after the first completion. Recall that these students had participated in the Birkman Seminar in 1972. Correlations between individual item answers (True = 0, False = 1) on the two occasions

Table 3

Immediate Test-Retest Means, Standard Deviations, and Correlations for Components for the Birkman Questionnaire and for Scores Derived from the Components (42 Prisoners)[1]

Score	Means				Standard Deviations				Test-Retest Correlation	
	Most People		Self		Most People		Self			
	1	2	1	2	1	2	1	2	Most People	Self
IN	88.8	89.7	82.7	85.7	17.3	18.1	23.6	19.2	78	76
SC	47.8	50.9	33.2	31.7	29.2	29.2	31.4	30.9	78	87
DO	70.5	70.7	58.2	60.3	29.6	29.0	30.1	31.2	79	76
MT	71.1	69.1	47.4	47.4	30.7	32.5	30.4	30.1	87	83
AU	56.7	65.2	66.2	70.5	29.5	27.6	28.5	25.8	78	77
SO	49.8	49.2	50.6	48.6	33.3	33.5	34.2	34.1	79	94
RE	53.0	47.8	45.4	47.7	32.6	33.3	31.4	30.0	81	82
EN	51.1	47.8	63.2	63.7	32.6	33.3	30.9	30.0	69	86
ID	43.0	45.6	30.2	32.5	29.6	30.5	27.2	30.0	71	78
DE	60.7	58.1	51.1	51.0	33.9	31.1	32.5	30.4	82	91
Derived Scores										
D1	72.4	72.0			25.6	23.1			75	
D2 M,S	9.1	8.5	5.6	5.7	3.2	3.3	2.3	2.0	72	74
D3 M,S	12.3	13.3	18.3	17.7	6.7	6.5	5.9	6.0	89	90
D4 M,S	13.9	14.2	12.7	11.9	6.8	6.9	2.7	2.8	88	77
D5 M,SG	66.4	67.7	75.1	75.9	31.5	29.9	28.1	28.2	96	95
D6 M,SG	79.8	76.4	55.5	54.2	21.3	22.4	28.2	28.8	73	88
D7	94.7	96.4			17.7	19.1			74	

[1] Mahalonibus $D^2 = 2.04$, $F(48/77) = 0.83$, $p = 0.75$; classification table, X^2 not significant; the results from the two testings did not differ significantly (Anderson, 1958).

Table 4

Two-Weeks' Test-Retest Reliabilities of the Items and Derived Scores of the Birkman Questionnaire and Interest Survey (132 Children of Mixed Sex and Ethnic Group)

Scores	Number of Items	Frequencies of Correlations, Test x Retest[1] .00 - .19	.20 - .39	.40 - .59	.60 - .79	.80 - .99
Questionnaire						
Items						
MOST PEOPLE	120	8	21	5	47	9
SELF	120	4	8	36	61	11
Components						
MOST PEOPLE	10	0	0	0	5	5
SELF	10	0	0	0	5	5
INTEREST	10	0	0	1	4	5
Derived Scores	18	0	0	1	2	15

[1] Pearson product moment coefficients

provide an especially rigorous test of stability. Each item was treated as a separate 1-item test. Individual item correlations are difficult to interpret, and they tend to be lower than those obtained from component scores, multi-item tests, etc. Therefore, they should be interpreted en masse, in their distributions, rather than separately and individually, since in actuality all multiple items contribute to a given component. The distributions of these correlations are shown in Table 5. Most of the item correlations, 71 and 79 percent, for the MOST PEOPLE and SELF coefficients, respectively, and all of the INTEREST items, were significantly different from zero (Table 5). The stability was greater (i.e., the item correlations tended to be larger) with the SELF answers. Most of the low item correlations were with items which virtually all students answered the same way on both occasions (i.e., there was no variance and thus no covariance available for the correlation computation). Items which are answered the same way by all are distributed uniformly across the ten components.

With the INTEREST items all of the 192 individual occupation items of the INTEREST Survey had retest coefficients that were significantly different from zero. Seventy percent of the items had stabilities above $r = .50$. In Table 6, these correlations are distributed on the basis of occupations that were highly popular, moderately popular, and unpopular. These item correlations indicate that there was considerable stability in the occupations selected by the students in their freshmen year. Note that Strong (1953) found that up to 68 percent of Stanford University freshmen in 1930 chose at that time the occupation they were in in 1949.

Table 5

Stability (15-Month) of Individual Item Responses

50 Austin College Sophomores

Correlation Range	Item Frequencies		
	Most People[1]	Self[1]	Interest[2]
.00 - .09	21	14	0
.10 - .19	22	15	2
.20 - .29	24	22	2
.30 - .39	32	26	18
.40 - .49	11	27	36
.50 - .59	15	15	58
.60 - .69	0	5	47
.70 - .79	0	1	22
.80 - .89	0	0	7

[1] 125 items, r of p = .05 is .17, 36 MOST PEOPLE and 26 SELF coefficients were not significantly different from zero.

[2] 192 items, r of p = .05 is .14.

Table 6

Distribution of 15-Month Stability Correlations of Interest Item Means for 192 Occupations (50 Austin College Sophomores)

r	N	Item Mean[1] 1.0-1.9 64 Unpopular	2.0-2.9 114 Moderate	3.0-4.0 14 Popular	Total 192
.00 - .09		0	0	0	0
.10 - .19		2	0	0	2
.20 - .29		1	1	0	2
.30 - .39		7	11	0	18
.40 - .49		17	18	1	36
.50 - .59		16	37	5	58
.60 - .69		11	31	5	47
.70 - .79		8	12	2	22
.80 - .89		2	4	1	7
.90 - .99		0	0	0	0

[1] Scored 4 for first choice, 3 for second and 0 for occupations not selected.

Since the component scores are simple sums of groups of items, the distributions of item coefficients relative to the different components are indicative of the areas in which the greatest maturation changes are occurring (Table 7). The greatest change was in the student's view of MOST PEOPLE for the self-consciousness items (i.e., 82 percent of the item coefficients were below $\underline{r}$ = .30). Among the SELF items those relating to Energy underwent great change in the 15-month period. (Note from Table 3 that the immediate test-retest coefficients for these two cases cited were .78 and .86, respectively). For some reason the student's answers to the Indecisiveness items were the most stable of all components with both MOST PEOPLE and SELF items (Table 7).

These 15-month changes in social and self-perception are reflected in the stability coefficients of the Components (Table 8). These stability coefficients have vastly different meaning from that of immediate test-retest coefficients. While the immediate retest correlations for the SELF and MOST PEOPLE components were all above $\underline{r}$ = .60 (Table 3), the largest 15-month stability coefficient for any of these components for 18-19 year old Austin College sophomores was $\underline{r}$ = .69. The 48 basic variables (Table 1) were factored (principal components), rotated (Varimax), and orthogonal factor scores were computed (Harman, 1960; Overall, 1962) for the first and second occasions separately. These two sets of factor scores were correlated. The principal results are shown in Table 9 with the factor score correlation between the two test-retest factors shown above each factor. Even considering the statistical instability occasioned by the small sample size and the almost

Table 7

Distributions of Item x Component 15-Month Stability Coefficients[1]

(50 Austin College Sophomores)

Correlation Range	Percents of Items within a Category								
	SC	MF	DO	SO	II	FE	EI	DE	ID
	MOST PEOPLE								
.40 - .79	10	27	14	15	21	43	22	25	50
.30 - .39	0	33	21	23	42	14	11	17	33
.00 - .29	82	40	60	62	36	43	67	58	17
	SELF								
.40 - .79	45	40	43	50	29	43	11	42	67
.30 - .39	36	20	14	14	29	14	22	8	0
.00 - .29	18	40	43	36	43	43	77	50	33

[1] Individuality is not shown since it crosses all the simple components. See Table 1 for names of components.

Table 8

15-Month Stability Coefficients of the Birkman Components[1]

(50 Austin College Sophomores)

Components	MOST PEOPLE	SELF	INTEREST	
IN	40 (78)	60 (76)	PER	65
SC	32 (78)	64 (87)	SS	75
DO	24 (79)	50 (76)	SCI	81
MT	60 (87)	69 (83)	OUT	72
II	48 (78)	57 (79)	MECH	79
SO	21 (79)	40 (94)	NUM	73
RE	62 (81)	44 (82)	CLK	78
EN	48 (60)	45 (86)	ART	81
ID	55 (71)	62 (78)	LIT	76
DE	56 (82)	45 (91)	MUS	81
Derived Scores[2]				
D1	35 (75)	60 (74)	D8I	68
D2 M,S	39 (72)	56 (90)	D9I	86
D3 M,S	64 (89)	17 (77)	D10I	77
D4 M,S	65 (88)		D11I	80
D7	46 (74)			

1 Test-retest correlations with leading decimal omitted. See Table 1 for the complete names of the components. For comparison purposes the immediate test-retest results from Table 3 are shown in parentheses.

2 The derived scores used in the graphical summary of the Birkman Method are shown in Table 15.

Table 9

Factor Structure of 48 Basic Variables Used in the Birkman Method for Test and Retest Data on Fifty Austin College Students

r=60
I

Variable	Test	Retest
MIN	74	66
MSC	42	74
MDO	74	76
MMT	89	88
MRE	---	72
MID	43	76
MDE	69	73
D5M	80	93
D6M	55	47
MII	-47	---
MSO	---	-49
MEN	---	-55
D1M	-46	-72
D3M	-90	-89
D4M	-93	-94

r=69
III

Variable	Test	Retest
Out	77	72
Art	40	---
D10I	70	64
D13IG	57	41
Num	-87	-88
Clk	-84	-83
D11I	-88	-88

r=66
II

Variable	Test	Retest
Out	42	49
D10I	47	53
Per	-89	-75
D8I	-59	-49
D12IG	-76	-83

r=53
IV

Variable	Test	Retest
D1M	76	52
SSC	60	79
SDO	73	---
SMT	81	51
SRE	43	---
SID	53	76
SDE	60	47
D5S	70	70
SEN	---	-82
D3S	-88	-59
D4S	-79	-50
D6S	---	-49

square matrix -- 50 subjects and 48 variables -- it is clear that the factor structure is quite stable.

Since the overall purpose of the Birkman Seminar, the Communications/Inquiry, and in fact, of the entire educational thrust at Austin College is aimed at broadening and sharpening the student's perspectives and self-determination skills, these stabilities in areas under direct assault by the program appear to be adequate Statistics are not available for young people tested with no overt test-related intervening variable having been interjected into the testing interim.

In general, as noted also with the item analysis, the greatest changes (i.e., the lowest correlations) occurred in the students' views of MOST PEOPLE relative to Individuality, Self-consciousness, Dominance and Sociability. Their views of SELF changed most with respect to Sociability, Restlessness, Energy and Depression. The principle maturation changes evident among the 50 students were in the direction of increased realism. As sophomores, they viewed most people as more sociable (37 vs. 58 percentile, freshman vs. sophomore), less self-conscious (64 vs. 60), indecisive (57 vs. 51), and restless (68 vs. 64). They saw themselves as becoming less restless (56 vs. 51), indecisive (42 vs. 34) and individualistic (81 vs. 61), but more dominant (42 vs. 45) and energetic (45 vs. 50). These changes in means extended to the correlations shown in Table 9. There was much less change among the students in the occupations selected on the INTEREST survey than there was on the questionnaires. The smallest stability coefficient among the ten INTEREST components of the Austin College sophomores was $\underline{r} = .65$, and seven of the ten scores were above .75. This result was contrary to the expectations that students' occupational interests would change a great deal as they progressed in college.

Factor Structure

Another indicator of internal consistency and reliability is the factor structure obtained from different groups of people. This technique is appropriate for another reason -- in the Birkman Method individual components are not interpreted. Rather, they are used in the derivations of the Derived Scores. This should be consistent in the factor structure.

The factor structure of both items and final scores have been examined in separate samples of 132 children, 151 public school teachers and administrators, 108 ministers, 106 criminals, 736 business executives of three levels, 300 salesmen, 100 laborers, salesmen (79 insurance and 109 item), mixed samples of 954 managers and good employees, and 1051 average and poor employees. Additionally, the results from the 1972 class of freshmen at Austin College were factored. Some of these results are summarized in Table 10. (See also Table 52 for comparisons of the sexes of three ethnic groups.) The methods used were the principle components factoring continued until the total eigenvalue associated with an eigenvector fell below 1.00. Varimax rotation and orthogonal factor scores were computed using all variables and the inverse of the correlation matrix, (Harmon, 1960; Overall, 1962). The factor structures of the highly divergent groups are quite stable (Table 10, and see Table 52), regardless of whether the subjects were adults or children, managers or prisoners, teachers or salesmen, whites or blacks, males or females. While several of the empirically derived component scores cut across several factors, and other factors subsume two or more of the component scores, the higher order derived scores follow the factor structure closely. The basic factor structure was stable even where there were many signi-

Table 10

Factor Structure of 48 Basic Variables Used in the Birkman Method Plus a Vocabulary Score (Vocab.)[1] Eight Highly Divergent Groups of Subjects[2]. See Table 1 for Names of Variables (a Vocabulary Test was also Included, Vocab.)

I

Var.	1	2	3	4	5	6	7	8
D5MG	93	90	91	91	88	96	89	95
MSC	74	78	69	78	73	83	76	43
MAT	88	71	77	73	68	70	70	84
MDE	73	76	74	77	83	80	76	69
MAE	72	66	74	78	79	63	68	—
MDO	76	62	54	57	50	57	67	55
MID	76	56	43	75	55	83	56	--
D5SG	21	33	26	51	29	29	29	18
D6MG	47	—	30	—	--	--	—	45
MAI	-39	-37	-61	-18	-50	-72	-34	83
MAN	-55	-46	-52	-18	-44	-65	-42	--
MSO	-49	-50	-61	-29	-55	-74	-46	70
D1	-72	-54	-74	-51	-64	-62	-56	-47
D3M	-89	-83	-78	-82	-80	-86	-86	94
D4M	-94	-88	-82	-88	-84	-84	-88	94

II

Var.	1	2	3	4	5	6	7	8
D6MG	51	87	84	72	72	91	92	83
MAT	30	45	—	31	33	45	46	—
MDO	26	35	39	55	00	39	35	41
MIN	41	30	-47	--	--	68	47	—
SDO	—	—	--	84	--	—	—	—
MDE	—	—	—	35	--	-28	—	—
D1	36	--	—	39	—	--	—	--
D4M	—	—	—	--	—	—	89	—
D7	-36	-67	-60	-77	-79	-70	-73	-60
MAN	—	--	—	--	—	—	--	72
MID	—	—	—	--	—	--	—	72
MSC	-23	—	—	—	—	—	--	-47
MSO	—	—	—	—	61	—	—	—
SSO	—	—	--	—	75	—	—	—

III

Var.	1	2	3	4	5	6	7	8
MAI	62	64	58	67	—	41	71	—
MAN	26	56	--	44	—	53	65	72
SSO	82	--	75	--	—	—	—	—
MSO	62	52	61	35	--	75	59	—
D2M	-77	--	—	93	—	—	—	—
D3M	—	--	35	--	—	--	-42	—
D4M	--	--	72	--	—	—	--	--
D5MG	—	--	--	—	—	-36	-377	—
MID	—	—	-38	--	--	-28	-36	72
Vocab	--	—	—	43	--	--	—	—
SCS	—	—	-54	—	—	--	—	—
MDO	22	—	—	--	—	--	—	44
MSC	--	—	—	--	--	--	--	-47

IV

Var.	1	2	3	4	5	6	7	8
MIN	41	75	70	81	80	--	63	—
SIN	—	64	40	--	—	—	74	69
D6MG	51	--	--	39	45	—	--	—
MDO	26	--	—	--	45	38	—	--
SAE	80							

V

Var.	1	2	3	4	5	6	7	8
MID	30	73	--	—	31	—	—	—
SID	—	57	--	--	66	--	54	77
SDO	30	--	—	—	—	—	-67	—
SMT	—	—	—	--	--	—	-59	—
SDE	-77	--	—	—	—	—	--	-77
MDE	-45							

VI

Var.	1	2	3		4		5			6	7	8		
			a	b	a	b	a	b	c			a	b	c
SDE	77	77	82	--	48	—	76	—	—	69	71	77	--	--
D5S	70	67	82	—	53	--	71	35	31	68	87	--	90	77
D1	52	58	52	—	60	—	51	--	--	64	68	—	76	—
SSC	79	56	53	33	71	—	48	54	34	59	68	—	62	39
SID	76	42	35	—	18	79	—	—	--	28	52	-71	—	--
SDO	29	—	59	—	--	--	—	—	—	25	27	—	70	57
SFE	22	—	--	-75	68	—	84	—	--	61	59	—	-56	-67
D4S	-50	-36	—	--	--	-28	—	—	—	--	-48	--	93	--
SIN	--	-40	—	--	--	--	—	—	—	-59	—	—	—	--
SSO	--	-45	—	-38	-73	--	—	-75	--	-13	-50	--	87	47
D7	-34	-47	—	—	-32	--	—	—	--	--	-32	—	—	—
D3S	-59	-52	—	-41	-55	--	—	72	—	--	-81	—	—	—
D6SG	-49	-64	—	—	-38	--	—	--	—	—	--	—	86	83
SLN	-82	-70	—	-70	-24	-71	—	—	-77	-40	-45	—	—	-82
SII	—	—	—	--	—	--	—	—	-30	—	—	—	69	—
MSO	—	—	—	—	—	—	—	-61	—	—	—	—	—	—
MII	--	—	—	—	—	—	—	-58	--	—	—	—	--	—
MIN	--	--	—	—	—	--	—	—	-56	—	—	--	—	—

VII

Var.	1	2	3	4	5	6	7	8
SMT	63	76	62	--	77	—	59	66
MMT	—	—	—	66	—	--	—	—
SDO	59	73	--	84	—	64	67	76
D1	—	—	—	39	41	—	--	45
D6SG	52	47	84	54	51	82	82	--
D3S	-36	-42	--	-50	—	--	--	--
D4S	-37	-48	—	-71	--	--	--	--
PER	—	—	--	—	—	-51	-54	--

VIII

Var.	1	2	3	4	5	6	7		8
							a	b	
SII	79	91	44	84	64	48	88	—	--
MII	30	—	--	40	—	23	—	--	—
SMT	--	--	--	-35	—	—	—	59	—
D6SG	-55	-33	-30	-49	-52	26	-31	82	—
D2S	—	-92	-70	-88	—	--	—	-85	—
SIN	--	—	—	—	-73	—	—	--	—
SDO	-35	—	—	—	—	24	—	67	—
SID	—	—	—	—	—	—	—	-54	—
SCI	—	—	—	—	--	57	—	--	—
Vocab.	—	--	—	—	—	75	—	--	—

IX

Var.	1	2	3	4		5	6	7		8
				a	b			a	b	
D8I	89	93	95	66	69	94	93	51	76	79
SS	89	83	82	--	91	86	83	91	—	31
D12IG	83	82	74	67	43	68	78	40	78	74
PER	75	71	69	95	—	--	72	--	94	87
MIN	--	—	--	—	—	—	--	--	--	48
SSO	26	38	—	—	—	--	—	--	--	—
SMT	--	—	34	—	—	--	—	--	50	—
NUM	—	-31	-51	—	--	-37	—	--	38	—
D10I	-46	-55	--	-23	-44	—	-74	-45	—	—
MECH	-85	-66	-40	-18	-58	-54	-78	-63	--	--
SCI	-40	--	--	--	--	-40	--	--	--	—
D11I	--	-46	—	--	—	--	—	—	--	--

Table 10 (cont.)

X

Var.	1	2	3	4	5	6	7	8
D9I	92	96	93	96	96	95	96	87
MUS	85	81	60	80	69	82	80	74
ART	85	78	79	71	77	63	77	78
LIT	75	74	76	72	74	69	75	54
D12IC	25	40	50	-52	54	51	40	47
D11I	-35	-31	46	—	-47	-32	-29	-40
CLK	-33	-32	41	—	-41	-36	-29	--
D13IC	68	-35	--	-45	--	-22	-32	-46
NUM	-28	—	-48	[illegible]	-47	-14	-29	—
SS	--	—	--	--	—	--	—	-56
OUT	-21	—	—	-36	--	-29	--	-44
D10I	-24	—	—	—	—	-39	-29	-30
D8I	-44	—	—	—	—	--	—	-40
SCI[4]	—	—	—	—	—	34	--	65

XI

Var.	2	3	4	5	6	7	8
D11I	88	69	69	94	78	89	89	93
NUM	88	79	52	87	63	77	77	86
CLK	83	86	75	86	82	80	87	87
LIT	30	—	--	33	—	33	—	53
MECH	-28	-53	-66	-63	-67	-67	-54	-82
D10I	-64	-75	-92	-77	-87	-57	-78	-87
OUT	-72	-79	-90	-76	-84	-32	-83	-76
D13IC	-40	-80	-77	-75	-85	-81	-72	-78

[1] Scattered factor loadings below 0.40 were discarded.

[2] In the Table the Group designated 1-8 are as follows:

1. 318 Austin College Freshmen, 1972 (196 males, 143 females)
2. 954 Managers (good, average, and poor) and employees (good only, White, mixed sex).
3. 151 public school teachers (92) and administrators (59) (both sexes) 44% Black, 12% Spanish surnames.
4. 106 prisoners, males, Harris County Rehabilitation Center, all white but 12; simplified form.
5. 79 insurance salesmen of mixed job category and performance.
6. 109 item salesmen, males, rated good, average, or poor by their company.
7. 1051 employees of mixed sex, ethnic group and job classification and performance.
8. 132 children, 9-14 years of age, mixed sex and ethnic groups; simplified form.

[3] Where a combination of variables split into two or three factors with a group, these are designated as a, b, or c.

[4] The scientific component almost always was a separate factor.

ficant mean differences between the two groups being compared. This was shown by contrasting 100 assorted similar employees rated "Good" with 100 rated "Poor" (Table 11).

A split-sample reliability for factor structure was devised by removing every third subject from a sample of 1008 "Good" employees -- employees who had been rated "Good" and any manager regardless of his rated performance. This yielded three samples varying in size, A = 336, B = 672, and AB - the combined total of 1008. Separate factor analyses were made with these three samples to determine how stable the factor structure was as a function of sample size. As can be seen in Table 12, there was only an occasional important difference between the three solutions. This indicates that there are stable patterns of interrelationships among large samples.

The factor structure of the first 92 items in the Birkman Interest Survey was determined from the sample of 100 "Good" employees (mixed sex, ethnic group and job category). The separate job categories shown on the Birkman Interest form were numbered in sequence as they appear on the form. In this survey the subject makes the first and second choice for occupations from among each set of four of these items. For the purposes of the present study a subject simply was given a score of 1 for each of the two occupations chosen and a 0 for the other two not chosen (i.e., the order and pairing was neglected). These results were factored, and 24 well-delineated factors emerged (Table 13). Due to the forced first and second choice requirement (often occurring between combinations none of which really interests the person), some bipolar factors were very similar to others at one pole of the factor dimension, but

Table 11

Comparison of the Results of 100 Good and 100 Poor Employees (Non-Managers) of Mixed Sex, Ethnic Group, and Job Category with the Birkman Questionnaire. (See Table 1 for Name of Variables). Note the Large Mean Differences.

A. Comparisons of the Means

	Variable	MOST PEOPLE		SELF	
		Good Employee	Poor Employee	Good Employee	Poor Employee
1	IN	44.3	56.0*	67.8	69.7
2	SC	48.5	39.2*	16.3	17.1
3	DO	36.0	41.6*	33.2	35.1
4	AT	46.2	46.2	21.4	26.0*
5	II	47.4	66.3*	66.3	80.2*
6	SO	52.6	59.0	76.3	76.3
7	RE	47.3	43.0	42.5	38.6*
8	EN	44.2	52.9*	69.0	71.6*
9	ID	50.9	44.7*	26.9	29.6*
10	DE	44.4	45.0	28.8	32.5*
11	D1	53.4	57.4*	--	--
12	D2M,S	5.27	4.98	3.60	3.51
13	D3M,S	5.28	5.38	5.50	5.31
14	D5M,SG	57.1	50.0*	44.9	40.5*
15	D6M,SG	49.4	47.6	63.5	56.2*

* Significant ($p=.05$) t test good vs. poor for MOST or SELF.

B. Comparison of the Six Principal Factors (M = MOST PEOPLE, S = SELF, D = DERIVED SCORE) of Two Groups in Which There Were Large Systematic Mean Differences.

I		
Var.	Good	Poor
D2M	89	93
MEN	80	71
MSC	76	84
MDE	70	82
MAT	70	77
MID	69	64
D4M	54	36
SRE	47	38
MDO	45	57
SDE	45	38
MSO	-31	-63
D1	-38	-72
MII	-43	-68
MEN	-22	-66

II		
Var.	Good	Poor
D3M	96	91
MDE	-41	-04
MII	-47	-27
MDO	11	34
MAT	29	47

III		
Var.	Good	Poor
MEN	79	78
SEN	72	79
SAT	-37	-22

Table 11 (cont.)

(Cont.)

B. Comparison of the Six Principal Factors (M = MOST PEOPLE, S = SELF, D = DERIVED SCORES) of Two Groups in Which There Were Large Systematic Mean Differences.

IV

Var.	Good	Poor
MDO	72	40
SDO	76	24
SII	35	01
MSO	-01	58
SSO	10	44
SEN	05	-36

V

Var.	Good	Poor
D1	87	57
[illegible]S	74	88
[illegible]	65	74
SRE	45	63
SSC	43	82
SMT	30	38
SID	29	63
MDE	20	33
MRE	-03	31
SSO	-13	-66
SEN	-29	-57
SII	-58	-17

VI

Var.	Good	Poor
MEN	83	31
SEN	58	20
MSO	74	04
MII	49	47
SII	31	80

VII

Var.	Good	Poor
DSS	93	87
SEN	52	46
SIN	36	15
SMT	30	58
SDO	26	70
SDE	-34	-16
SII	-37	-33
SSC	-41	-05
SID	-52	-24

Table 12

Split Sample Reliability of Factor Structure of 1008 Good Employees and Managers. Samples: A = 336, B = 672, AB = 1008 (A and B Combined) (See Table 1 for Variable Names). Similar Factors From Three Separate Factor Analyses

Var.	A	B	AB
MSC	76	78	78
MMT	75	70	71
MME	75	76	76
D1	-55	-53	-54
D3M	-87	-83	-83
D5MG	90	91	90
D4M	-93	-86	-88
D5SG	30	36	33
MDO	59	62	62
MSO	-55	-49	-50
MME	54	73	66
MID	58	53	56
MIN	-44	-49	-46
MII	-37	-39	-37
D2M	36	20	23
D3S	-25	-34	-30

Var.	A	B	AB
MDO	-37	-34	-35
MMT	-36	-48	-45
D6MG	-86	-87	-87
D7	75	68	69

Var.	A	B	AB
MME	-45	--	-48
SID	-24	--	-86
SMT	-65	--	-28
D3S	26		50

Var.	A	B	AB
AMT	78	78	78
LIT	73	73	74
MUS	82	80	81
CLK	-39	-30	-32
D9I	96	96	96
D11I	-36	-28	-31
D12IG	43	39	40
D13IG	-24	-38	-35

Var.	A	B	AB
MII	74	55	65
MIN	49	45	56
MSO	42	55	52
SSO	-18	34	15
D4S	06	-38	22
D2M	-80	-82	-79
D5MG	-34	-21	-29

Var.	A	B	AB
MIN	76	76	75
SIN	68	64	64
MSC	-31	-14	-21
SSC	-38	-12	-20
D6SG	30	15	17

Var.	A	B	AB
Sci.	-89	-90	-84

Var.	A	B	AB
MECH	-53	-53	-53
OUT	-73	-82	-79
NUM	79	79	79
CLK	83	87	86
PER	-37	-24	-27
D10I	-72	-76	-75
D8I	86	89	89
D13IG	-85	-78	-80

Var.	A	B	AB
PLN	72	71	71
SS	82	83	83
MECH	-68	-66	-66
OUT	-38	-26	-29
D11I	94	92	93
D10I	-62	-52	-55
D12IG	82	82	82
SSO	37	42	38
NUM	-27	-34	-31

Var.	A	B	AB
SSO	-45	-04	-36
D4S	44	-04	26
Vocab	10	88	25

Var.	A	B	AB
SIO	76	74	73
MDO	27	23	26
SMT	42	66	76
SIN	41	07	08
D3S	-26	-31	-42
D4S	-39	-48	-48
D6SG	62	52	47
D7	40	35	30

Var.	A	B	AB
SME	78	66	22
MME	30	25	03
SLE	70	65	77
MDE	30	23	34
SIN	-32	-26	-70
SIN	-37	-32	-40
SSC	43	68	56
SID	34	38	42
D1	56	68	58
D3S	-83	-77	-52
D4S	-43	-23	-36
D5SG	73	78	67
D6SG	-50	-48	-64
SSO	-30	-35	-45
D7	-45	-49	-47

Var.	A	B	AB
SII	89	92	91
D2S	-88	-89	-92
D1	-37	-17	-26
D5SG	-39	-22	-29
D6SG	-18	-36	-33

Table 12 (cont.)

Var.	A	B	AB
SDE	—	-43	—
MEN	07	41	-19
SEN	18	71	-24
D4S	12	39	-26
Vocab	92	-12	82
D6SG	—	49	—
D7	—	32	—

Var.	A	B	AB
SID	-83	-62	-73
MID	-37	-63	-57
SSC	-40	—	—
SEN	41	—	—
D6SG	50	25	-25

Table 13

Factor Structure of the First 92 Items of the Birkman Interest Survey (100 Good Employees)

F1	
Chief Clerk	89
Window Dresser	-58

F2	
Secretary	69
Office Worker	62
File Clerk	57
Copywriter	57
Florist	50
Architect	-43
Dentist	-45
Auctioneer	-77

F3	
Employment Mgr.	75
Store Mgr.	46
Office Mgr.	40
Carpenter	-40
Architect	-79

F4	
Purchasing Agent	87
Timekeeper	40
Pharmacist	-66

F5	
Bank Cashier	56
Bank Teller	48
H.S. Teacher	-79

F6	
Advertising Agent	83
Sales Mgr.	52
Math Teacher	-63

F7	
Statistician	80
Accountant	40
Politician	-40

F8	
Accountant	56
Bookkeeper	46
Cost Accountant	43
Tax Accountant	42
Rancher	-40
Fisherman	-52
Forest Ranger	-55
Game Warden	-68
Detective	-73
Sheriff	-75

F9	
Lab Technician	74
Politician	-69

F10	
Research Scientist	48
Minister	-84

F11	
Office Mgr.	42
Scoutleader	-42
4-H Club Supr.	-75
Playground Supr.	-75

F12	
Office Mgr.	40
Reporter	-42
Artist	-74

Table 13 (cont.)

F13	
Timekeeper	46
Music Librarian	-49

F14	
Bank Cashier	61
Shipping Clerk	60
Credit Mgr.	51
Singer	-58
Musician	-72
Music Composer	-80

F15	
Law Clerk	67
Member of Orchestra	-80

F16	
Sales Mgr.	45
Math Teacher	44
Writer	-71
Author	-88

F17	
Research Scientist	48
Librarian	49
Sign Painter	-42
Carpenter	-42
Animal Trainer	-44
Greenhouse W.	-45
Rancher	-49
Forest Ranger	-52
Cabinet Maker	-66
Farrer	-77

F18	
Law Clerk	42
Tool Maker	-40
Farm Hand	-71
Poultry Farm	-82

F19	
Paymaster	88
Animal Trainer	-44

F20	
Campground Counselor	60
Electrician	-40
Photographer	-83

F21	
Family Counselor	84
Social Worker	44
Machinist	-40
Equipment Inspector	-54

F22	
Ticket Agent	77
Salesman	43
Store Mgr.	40
Child Welfare	40
Welder	-40
Proofreader	-45

F23	
Store Clerk	74
Salesman	40
Electrician	-40
Piano Tuner	-69

F24	
Electrician	40
Cabinet Maker	41
Welder	46
Fisherman	50
Machinist	53
Telephone Repair	55
Auto Mechanic	78
Plumber	83

were dissimilar at the other pole (i.e., in the forced choice situation of the survey some subjects made the same first (or second) choices, but made different second (or first) choices. On the whole the occupations clustered into meaningful groups.

The Interest Component scores derived from the items were factored for a sample of 1051 employees and managers of assorted sex, ethnic group, and rated performance. The results are shown in Table 14. This factor structure is very stable, occurring in every sample factored to date with only minor variation in the magnitudes of the factor loadings.

The graphic summarization of a person's results used in the Birkman Method employs six scores that are derived from the 30 component scores (Table 1). The mean values of these six scores did not differ significantly in the 50 Austin College sophomores retested in 1973 (Table 15). However, there was a considerable amount of individual change as evidenced by the rather low (though significant) stability coefficients. These coefficients were markedly lower than those obtained with immediate test-retest comparisons. These coefficients were especially low for the D6MG and D5SG. Young people, in early college years at least, appear to be undergoing considerable change in their value system, and in their social and self perceptions.

Effects of Statistical Dependencies Among the 48 Basic Variables Used in the Birkman Method.

Dependencies within data may grossly distort the results of the multivariate analyses. If dependency is created purely by

Table 14

Varimax Factor Structure of the Interest Components of the Birkman Interest Survey and of the Six Scores Derived from these Components. 1051 Assorted Employees and Managers. Leading Decimals of Factor Loadings Omitted.

F1	
OUT	83
MECH	54
D10I	78
D13IG	72
NUM	-77
CLK	-87
D11I	-89

F2	
SS	-91
D8I	-57
D12IG	-40
MECH	63
D10I	45
D13IG	21

F3	
PER	94
D9I	76
D12IG	79
D13IG	50
CLK	-39

F4	
ART	77
LIT	75
MUS	80
D9I	96
D12IG	40
D13IG	-32

F5	
SCI	97

[1] See Table 1 for Description of Variables.

Table 15

Means, Standard Deviations, and 15-Month Retest Stabilities (Leading Decimals Omitted) of the Six Scores Utilized in the Graphical Summary of the Birkman Method. For Comparison Purposes, the Immediate Test-Retest Coefficients Are Shown in Parenthesis after the Stability Coefficients. (50 Austin College 1973 Sophomores).

		Means and (Std. Dev.)[1] 1972	1973	Stability Coefficient
MOST PEOPLE	D5MG	80 (17)	74 (25)	58 (96)
	D6MG	70 (26)	65 (18)	47 (73)
SELF	D5SG	83 (17)	79 (24)	39 (95)
	D6SG	27 (25)	28 (21)	61 (88)
INTEREST	D12IG	56 (27)	53 (24)	65 --
	D13IG	64 (29)	64 (27)	79 --

[1] No t test between the two occasions was significant.

manipulation of the data (e.g., by the use of part-whole, ratio-elements, the same item in several scores) the results may be quite misleading (Snedecor & Cochran, 1967). While the separate items of the Birkman instruments are used only once in all the basic scores, except Individuality, other scores used in regression analyses do have varying degrees of dependency with the scores from which they were derived. To examine the influence of this dependency, the MOST PEOPLE and SELF scores and the combined scores were factor analyzed separately (principal components factoring, and Varimax rotation, Harmon, 1960). The results (Table 16) were almost identical for the two solutions.

Effects of Various Response Tendencies

The instruments have not been systematically balanced for social or economic desirability of the alternatives. Therefore, systematic tendencies to answer either True or False were determined for a number of samples (Table 17). Children tended to answer more of the MOST PEOPLE items True than did any other group. However, this tendency did not appear to be sufficient to invalidate the conclusions. No other systematic tendencies were noted. Another tendency present, but not treated here relates to the large situational difference between the test sophisticated college student who "completes" instruments such as this under very little pressure and with little cost for poor performance, and that of the job applicant in the world of work where the cost of "failure" may be large. This factor (careless? blase?) may be partly responsible for the low stability coefficients in Table 8. Carelessness in marking choices, skipped items, ambivalence evidenced by erasures,

Table 16

Comparison of Factor Structure of the Basic Questionnaire MOST PEOPLE and SELF Component Scores Factored Alone and of the Combined with Scores Derived (D) from them (132 Children). See Table 1 for Variable Names.

I		
Var.	Alone	Combined
MII	81	83
MIT	78	84
MSO	76	70
MIE	67	64
MDO	64	55
MSC	30	43
D1	X	47
D4M	X	94
D5MG	X	95
D2M	X	-37

II		
Var.	Alone	Combined
MIN	82	72
MID	62	72
MIE	53	33
MDO	29	41
MSC	-28	-47
D6MG	X	78

III		
Var.	Alone	Combined
SSO	80	87
SII	80	69
SDO	58	70
SSC	43	62
SIC	-34	-56
D1	X	76
D2S	X	69
D4S	X	93
D5SG	X	90
D6SG	X	86

IV		
Var.	Alone	Combined
SIN	74	82
SIE	41	67
SID	31	—
SSC	-54	-39
MSC	-56	-34
SSO	-18	-47
D5SG	X	-77
D6SG	X	-83

V		
Var.	Alone	Combined
SIT	68	66
SIE	47	37
SDO	33	76
None	X	—

VI		
Var.	Alone	Combined
SDE	81	77
SID	-75	-77
None	X	—

Table 17

Number of Questionnaire Items Answered True by Divergent Groups

Group	N	True Answers (% of 120)			
		MOST PEOPLE		SELF	
		Mean	Std. Dev.	Mean	Std. Dev.
Good Employees[1]	100	49.7	12.2	46.5	13.4
Poor Employees[1]	100	53.1	14.7	56.3	14.5
Salesmen[2]	97	60.0	14.9	67.2	15.7
Children[3]	132	71.7	14.0	54.9	16.4
School Teachers					
White	40	48.7	13.7	42.7	14.4
Black	40	60.7	21.2	67.5	20.8
Prisoners[4]	67	61.1	15.4	63.4	16.2

1 Mixed sex and occupation, primarily White.

2 White males

3 Mixed sex and ethnic groups, ages 9-11.

4 White males

systematic marking behavior (all True, alternate True-False, etc.), where the practice covers large parts of the form, are detected by the processing procedures.

Demographic Correlates of the Birkman Method Variables

In a study of 151 teachers and administrators of mixed race and sex, 11 of the 48 Birkman variables plus a vocabulary score correlated significantly with age, but the largest single correlation was only -.32. With males coded 1 and females 0, 11 variables correlated positively and four negatively (Artistic, Musical, Cultural, and Insistence for Most People) at significant level for sex. Six of these "sex" coefficients exceeded .40 (e.g., Mechanical was r = .60). Educational level correlated significantly with four variables, but the largest of these was only -.28.

CORRELATIONS WITH OTHER PSYCHOLOGICAL INSTRUMENTS

A total of 38 scores are utilized in the Birkman procedures (Table 1). This includes the 30 component scores discussed earlier. Each of these 48 scores is designed to estimate a particular trait, attribute, or interest area. With complex instruments such as the Birkman Method and the MMPI, there is no meaningful overall correlation. However, component constructs can be compared as a first step in developing a nomological net which contains the Birkman Constructs (Torgerson, 1958). For this comparison four student populations in 1972 to 1974 completed the Birkman instruments, and in addition, several other popular instruments: 318 Austin College Freshmen (AC), 552 Medical School Applicants (MSA), and 119 advanced students (MS) at a major medical school and 97 assorted high school and college students (Kuder).

Details on the two samples and the instruments compared are shown in Table 18. The AC sample was composed almost exclusively of students 18 years old just out of high school, the MSA sample averaged 22 years of age and all but thirty of these were college graduates, the MS sample averaged 24 years of age with a much larger range in ages, and all of the latter had completed a substantial number of years of college work. Both the MSA and the MS sample had been exposed to several years of testings of many kinds. The sample for the Kuder Occupational Interest survey was a mixture of 47 males and 50 females of high school and university students averaging about 22 years of age.

The means and standard deviations of the Birkman Components for the two student groups and for a large sample of 1050 adult employees from business and industrial settings are shown in Table 19. The students had higher mean scores on both the MOST PEOPLE and SELF questionnaires than did the employees in business and industry on Individuality, Self-consciousness, Dominance, Materialism and Depression, and lower scores on Sociability and Energy (Table 19). The Austin College students were quite high on Restlessness and Indecision, while the Medical Students had very low scores on Indecision. Both student groups selected fewer Persuasive and Clerical occupations, and more Scientific, Outdoors, and Cultural occupations than did the large sample of employees in the business world. The medical students selected a large number of the Mechanical occupations.

Personality Measures

The intercorrelations among the components for the two populations are shown in Tables 20, 21 and 22. Since the instru-

Table 18

Collegiate Samples and Personality and Interest Instruments Compared

(All Students Completed the Birkman Instruments)

Sample	Author	Abbr.	Title
Austin College 1972 entering Freshman Class N = 318	Cattell, et al. (1970)	16PF	Sixteen Personality Factor Questionnaire (Form A)
	Strong, et al. (1966) Campbell (1969)	SVIB	Strong Vocational Interest Blank for Males and Females
Medical School Students: Juniors & Seniors Paid Volunteers 1973; N = 119 and Medical School Applicants, 1974 N = 522	Edwards (1959)	EPPS	Edwards' Personal Perference Schedule
	Eysenck & Eysenck (1969)	EPI	Eysenck Personality Inventory (Form A)
	Hathway & McKinley (1967) and Carson (1969)	MMPI	Minnesota Multiphasic Personality Inventory (Individual)
		Es	Barron's Ego Strength Barron (1953)
		D	Depression
		Pd	Psychopathic Deviate
	Gough (1969)	CPI	California Psychological Inventory
		Cs	Capacity for Status
		Sy	Sociability
		To	Tolerance
		Cm	Communality
		Ie	Intellectual Efficiency

Table 18 (cont.)

Sample	Author	Abbr.	Title
Medical School Students (cont.)	Barratt (1965)	BIS	Barratt's Impulsivity Scale
	Kaplan & Pokorny (1969)	KSP	Self-Perception Scale
High School and College Students N = 97	Kuder (1964, 1970)	KOIS	Kuder Occupational Interest Survey, Form DD

Table 19

Score Means and Standard Deviations of the Birkman Components for Two Collegiate Samples (318 Austin College Freshmen, AC, and 119 Medical School Students, MS) and for a Sample of 1050 Managers and Employees in Business and Industry (B&I)

Components	MOST PEOPLE						SELF					
	AC		MS		B&I		AC		MS		B&I	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
IN	89.4	15.8	81.0	22.5	60.0	31.1	71.8	24.6	75.2	24.1	61.5	30.0
SC	65.3	20.7	55.9	24.8	49.1	27.8	46.3	27.9	31.8	26.6	20.0	20.8
DO	74.4	23.1	63.4	25.7	44.2	27.4	42.7	27.7	46.2	27.5	34.4	25.9
NT	73.7	23.1	60.0	29.0	53.4	26.8	30.8	25.0	30.3	23.4	23.0	18.8
II	51.8	24.3	55.3	23.7	52.7	27.7	69.9	22.0	70.0	23.7	73.1	23.9
SO	36.0	27.1	48.7	30.5	52.7	31.6	44.4	31.7	57.7	30.6	77.0	27.3
RE	65.9	24.8	43.2	28.9	47.2	27.0	52.4	27.6	37.8	28.1	36.6	24.9
EX	29.4	25.9	37.9	30.7	43.3	29.5	43.6	30.7	65.7	31.4	71.1	24.3
ID	56.4	26.6	38.1	28.2	49.8	27.3	39.7	28.8	17.3	19.1	26.9	23.4
DE	72.2	24.1	52.3	26.4	48.0	27.0	62.2	27.6	37.2	27.7	32.5	27.0

Interests	AC		MS		B&I	
	M	SD	M	SD	M	SD
PER	38.6	29.1	31.9	27.1	63.3	30.1
SS	47.0	27.1	43.1	26.1	49.6	26.4
SCI	60.5	29.8	67.5	23.4	52.2	19.9
MECH	55.6	27.0	69.8	19.9	52.4	30.6
OUT	64.6	26.7	77.8	20.1	57.0	27.6
NUM	39.3	22.4	35.4	17.2	40.0	24.5
CLK	30.4	24.9	14.2	17.1	38.9	26.7
ART	70.3	25.1	69.5	25.2	47.9	26.4
LIT	60.5	33.0	58.4	33.4	37.8	30.0
MUS	66.9	26.7	73.9	22.2	53.2	27.9

Table 20

Significant Intercorrelations Between MOST PEOPLE Components of the Birkman Method. Austin College (AC) (318) and Medical School (MS) (119) Students Are Shown in that Order. Test-Retest Correlations Are Shown in the Diagonal, 15-Month Stability from Table 8 Under AC (50 Austin College Sophomores), and Irrediate Retest from Table 3 in the MS Column (42 Prisoners). Only Coefficients that Differ Significantly from Zero (p=.05) Are Shown. (See Table 1 for Variables Names).

Components	IN		SC		DO		MT		II		SO		ME		EN		ID		DE	
	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS
IN	40	78																		
SC			32	78																
DO	36	24	31	36	24	79														
MT	43	34	36	55	54	57	60	87												
II	-42	-45			-21	-12	-33	-30	48	78										
SO	-19	-23	-26	-43	-13	-20	-29	-38	23	21	21	79								
ME	19	17	30	40	31	32	40	49			-25	-42	62	81						
EN	-23	-27	-22	-40	-14	-45	-26	-48	19	26	30	50	-21	-44	48	69				
ID	19	22	31	32	26	38	35	-47	-17	-21	30	-48	34	42	-36	-51	55	71		
DE	20	14	41	38	36	54	41	50	-15	-20	-30	34	38	38	-35	-56	29	51	56	82

Table 21

Significant Intercorrelations Between the SELF Components of the Birkman Method; Austin College Students (AC) (318) and Medical School Students (MS) (119) Are Shown in that Order. Test-Retest Correlations Are Shown in the Diagonal, 15-Month Stability from Table 8 in the AC Column (50 Austin College Sophomores), and Immediate Retest from Table 3 in the MS Column (42 Prisoners). Only Coefficients that Differ Significantly from Zero ($p=.05$) Are Shown. (See Table 1 for Variable Names).

Components	IN		SC		DO		MT		II		SO		PE		EI		ID		DE	
	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS
IN	60	76																		
SC	-23	-38	64	87																
DO	20	--	18	18	50	76														
MT	19	--	26	17	52	49	69	83												
II	-35	-36							51	77										
SO			-23	-35	--	21					40	94								
PE	--	-19	29	44	32	--	18	24					44	82						
EI			-26	-50					--	22	33	30	-20	-25	45	86				
ID			35	52	--	17	--	17			-28	-38	27	33	-48	-41	62	78		
DE	--	-25	39	50	31	17	25	18	-20	--	-19	-26	37	41	-42	-39	42	40	45	91

Table 22

Significant Intercorrelation Between INTEREST Components of the Birkman Method; Austin College (AC) (318) and Medical Students (MS) (119) are shown in that Order. 15-Month Stability Retest Correlations are shown in the Diagonal for 50 Austin College Sophomores. (These Data were not Available from the Prisoner Sample). Only Coefficients that Differ from Zero (p=.05) are shown. (See Table 1 for Names of the Variables).

Components	PER		SS		SCI		MECH		OUT		NUM		CLK		ART		LIT		MUS	
	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS	AC	MS
PER	68																			
SS	-07	20	75																	
SCI			21	00	81															
MECH	-09	-37	-47	-50			72													
OUT	-25	-32			02	-28	31	36	79											
NUM			-19	-11	-20	00			-58	-36	73									
CLK	19	01			-25	-01	-28	-34	-61	-40	76	68	78							
ART	-36	-36	-04	-34	19	-14					-37	-28	-43	-25	81					
LIT	-20	-01	-02	-28			-25	-15	-03	-19	-35	-30	-28	-26	47	40	76			
MUS	-22	-21	05	-25			-28	11			-26	-35	-36	-44	43	39	55	47	81	

ments to be compared in this study are personality measures, not designed to evaluate social perception, the discussion will center on the SELF components.

The patterns of correlations were very similar between the two samples of students. Four of the components are correlated at low or moderate levels with most of the other 10 scores -- Self-consciousness, Restlessness, Indecision, and Depression. This low level dependency between scores is no higher than that observed in the other instruments examined (see Tables 23,24,25 and 26 for 16 PF, EPPS, MMPI, and CPI, respectively). These latter tables also show that the student samples used here correspond quite closely with those heterogeneous samples reported by the authors of the various other instruments. Table 27 supports this conclusion with comparative data reported in the Gough CPI Manual and from the Medical Students' correlations between the five CPI and 3 MMPI scales examined. The correlations of these vastly different groups of subjects are virtually identical.

In line with this, it was noted earlier that the factor structure of the Birkman components is remarkably stable from sample to sample which vary in age, socio-economic and educational groupings (Table 10).

The significant intercorrelations between the Birkman components and other constructs are shown in Tables 28,29 and 30. However, exploration of construct validities is facilitated if the factor structure of the Birkman components is utilized. For this purpose the data from the large, adult Business and Industrial sample shown in Table 19 were factor analyzed (Principal Components Factoring with Varimax rotation). Five important factors emerged

Table 23

Significant Intercorrelations Between 318 Austin College Students' Scores on Cattell's 16 PF Questionnaire
(See Table 28 for Names of Cattell's Factors)

Cattell's Factors	A	B	C	E	F	G	H	I	L	M	N	O	Q1	Q2	Q3	Q4
A	X															
B		X														
C			X													
E				X												
F	26			40	X											
G						X										
H	37		26	47	53		X									
I								X								
L			-31	30					X							
M		26				-21		27		X						
N				-34	-30	21				-18	X					
O	-24	-17	-52				-33		24			X				
Q1				39		-33			25		-23		X			
Q2	-42				-39	-18	-31			18				X		
Q3			20	-22		43			-21				-26		X	
Q4			-56				-27		32			52			-24	X

Table 24

Comparison of Significant Correlations Between the EPPS Scales for 119 Medical Students (MS) and for Edward's (ED) Reported Data for 1509 Subjects (Edwards, 1959). Where the Coefficient for One Sample Was Significant, that of the other Sample is Shown Regardless of its Magnitude.

Component[1]	Ach		Def		Ord		Exh		Aut		Aff		Int		Suc		Dom		Aba		Nur		Cha		End		Het		Agg	
	ED	MS	ED	MS	ED	MS	ED	MS	ED	MS	ED	MS	ED	MS	ED	MS	ED	MS	ED	MS	ED	MS	ED	MS	ED	MS	ED	MS	ED	MS
Ach	XX	XX																												
Def	-17	-00	XX	XX																										
Ord			26	30	XX	XX																								
Exh			-22	-23	-21	-10	XX	XX																						
Aut			-30	-28	-15	-31			XX	XX																				
Aff	-33	-35			-16	-45			-33	04	XX	XX																		
Int	-09	-24					-22	-21					XX	XX																
Suc	-14	-17							-21	-14	09	-17	-16	-17	XX	XX														
Dom	19	14	-22	-18	-16	-03	11	27			-12	-31			-22	-31	XX	XX												
Aba	-28	-08	16	09			-18	-19	-26	-18			-01	19			-34	-41	XX	XX										
Nur	-30	-31			-16	-33	-17	-31	-35	-14	46	57			16	36	-20	-39	23	24	XX	XX								
Cha	-14	-23	-09	-20	-18	-32			-11	20	05	19			-18	-16			-11	-28			XX	XX						
End	07	33	22	09	33	43	-27	-12	-16	-28	-15	-43			-31	-29	-16	08			-12	-24	-14	-19	XX	XX				
Het			-28	-13	-16	-21			04	26	-21	01	-19	-18	07	-17			-29	-30	-21	-22	-07	26	-27	-29	XX	XX		
Agg			-31	-30	-16	-21			29	23	-33	-20	-20	-11	-01	-17	21	27	-25	-19	-33	-32			-22	-22	15	23	XX	XX

[1] Names of EPPS variables are as follows: Achievement (Ach); Deference (Def); Order (Ord); Exhibition (Exh); Autonomy (Aut); Affiliation (Aff); Intraception (Int); Succorance (Suc); Dominance (Dom); Abasement (Aba); Nurturance (Nur); Change (Cha); Endurance (End); Heterosexuality (Het); Aggression (Agg); Consistency is not shown.

Table 25

Significant Intercorrelation Between the Medical Students (MS) Scores on Three Scales of the MPI

Scale	D	Pd	Es
Depression	X		
Psychopathic Deviate	36	X	
Ego Strength	-43	-34	X

Table 26

Significant Intercorrelations Between the Medical Student's (MS) Scores on Five Scales of the CPI as Compared with the Published Values of Gough (1969) for 4000 Males and 5000 Females.

Scale	Cs			Sy			To			Cm			Ie		
	Gough		MS	Gough		MS	Gough		MS	Gough		MS	Gough		MS
	M	F		M	F		M	F		M	F		M	F	
Capacity for Status	xx	xx	xx												
Sociability	57	66	60	xx	xx	xx									
Tolerance	44	57	46	25	47	37	xx	xx	xx						
Communality	06	08	04	15	21	12	10	21	25	xx	xx	xx			
Intellectual Efficiency	53	60	63	48	58	44	63	70	64	21	24	25	xx	xx	xx

Table 27

Comparison of 119 Medical Students and Gough's (1969) Reported Correlation for 295 Males Between Five CPI Scales and Three MMPI Scales

MMPI Scales	CPI Scales									
	Cs		Sy		To		Cm		Le	
	Gough	MS	Gough	MS	Gough	MS	Gough	MS	Gough	MS
Depression	-12	-29	-39	-49	-10	-23	-30	-26	-28	-31
Psychopathic Deviate	12	-14	16	-12	01	-37	-07	-43	-05	-22
Ego Strength	26	32	30	39	43	51	-13	15	46	53

Table 28

Significant Correlations Between the SELF Components of the Birkman Method and the 16PF Factors of Cattell's Questionnaire with 318 Austin College Students (See Table 1 for Names of the Birkman Components)

Factor		Birkman SELF Components									
		EN	SC	DO	PT	TI	SO	TE	LN	TD	LE
A	Cyclothemia						33				
B	Gen. Intell.										
C	Ego Strength		-33	-24	-19		27	-37	39	-45	-43
E	Dominance			34	17		23				
F	Surgency			27			53		20	-19	
G	Superego Stg.	-21			-18	43					
H	Parmia		-33	17			64		31	-32	
I	Premsia							-18			
L	Protension		23	46	35			18			31
M	Alexia										
N	Shrewdness										
O	Timidity		39	17	21		-18	36	-33	42	45
Q1	Radicalism					-20					
Q2	Self-sufficiency						-39				
Q3	Self-sentiment Ct.					42					-19
Q4	Ergic Tension		34	30	17		-17	42	-32	37	50

Table 29

Significant Correlations Between the SELF Components of the Birkman Method and the Scales of the EPPS with 119 Medical School Students (See Table 1 for Names of the Birkman Components)

EPPS	Birkman SELF Components									
	IN	SC	LS	MT	FI	SO	NE	EX	ID	DE
Ach	-19		24		39	-28				
Def			-21							
Ord					31	-21				
Exh			34	29		21				
Aut	25	-19			-31					
Aff			-27	-19	-29	30				
Int			-22	-23			-27			
Suc		27			-20		18	-35		24
Dom		-27	28	23	28	22		23	-26	-31
Aba	-21	43		-25		-26		-22	27	25
Nur			-31	-32		21				
Cha					-28	19			-19	
End					52			31		
Het			17		-21					
Agg			53	23						

Table 30

Significant Correlations Between the SELF Components of the Birkman Method and Barratt's Impulsivity Scale, Two Scales of the EPI, Three Scales of the MMPI, Five Scales of the CPI, and the Kaplan-Pokorny Self-Perception Scale with 119 Medical Students. (See Table 1 for Names of the Variables).

Factor	Birkman SELF Components									
	EN	SC	DO	MF	IT	SO	RE	EN	TD	DE
Barratt's										
Impulsivity					-35	43	20			
Eysenck's										
Extraversion				19		60		23	-24	
Neuroticism	-31	66	31	21		-32	56	-40	53	72
MMPI										
Ego Strength		-47				24	-31	40	-37	-54
Depression		38				-45	21	-45	48	26
Psychopathic Deviate		25	26	24	-20		24	-35	37	35
CPI										
Capacity for Status		-43			-18	49	-22	37	-42	-31
Sociability		-32				58		36	-45	-27
Tolerance		-39	-36	-31		26	-37	25	-51	-44
Communality	-22			-19	40				-25	-22
Intellectual Efficiency		-32	-24	-21		30	-35	31	-40	-42
Kaplan-Pokorny										
Self-Perception	-19	42	-31			-37	40	-38	47	53

for the ten SELF components. These factors provide a parsimonious way to explore the construct validity of the Birkman components across the two samples, AC and MS, who completed different instruments. The first factor was an almost exact replica of Eysenck's higher order neuroticism factor (Table 31). Note the virtual identity of the factor loadings from the B&I sample and the correlations of the medical students between the same Birkman SELF components and Eysenck's Neuroticism scores (first two columns of Table 31). Barron's Ego Strength, ES, is almost the reciprocal of this factor. With the signs reversed, the following are very similar to ES: Kaplan and Pokorny's Self-Perception and Cattell's factors of Ergic Tension (Q4), and Timidity (O). The tolerance (To), Intellectual efficiency (Ie), capacity for status (Cs), and Sociability (Sy) scales of the CPI, and the Ego Strength (C) scale of the 16 PF also are correlated.

Factor II also clearly was Eysenck's Extraversion-Introversion scale. Barratt's Impulsiveness Scale involves both Factor II and Factor III (Insistence). None of the other scales correlated highly with Eysenck's Extraversion, E, scale. The CPI Scale for Communality (Cm), the EPPS Endurance, and Cattell's Superego Strengths, G, and Self-Sentiment Control, Q3, scales were also similar to Factor III of the Birkman components. Factor IV, Dominance and Materialism, relates to the Agression, Exhibition, and Dominance Scales of the EPPS, and to the Protension (L), Dominance (E), and Ergic Tension (Q4) factors of Cattell. There is also a small negative relation with the Tolerance and Intellectual Efficiency scales of the CPI. The Individuality factor, V, bore some similarity to the Communality, Cm, scale of CPI, the Autonomy scale of EPPS and to Factor G,

Table 31

Summary of Intercorrelations Between the Birkman SELF Components and Similar Scales on Other Popular Instruments (Medical Students, MS, and Austin College, AC). This is Not A Factor Analysis, but the Data Are Organized on the Basis of the Varimax Factor Structure of Subjects Employed in Business and Industry (B&I--shown in the first column) (Leading Decimals Omitted).

Birkman Component	Factor[1] Loading (B&I)	Correlations with Birkman Components[2]															
		Eysenck MS	MMPI MS		Kaplan MS	CPI MS				LPPS MS			16PF AC				
Factor I		N	ES	D	Pd	KSP	To	Ie	Cs	Sy	Aba	Sus	Dom	Q4	O	L	C	H
DE	71	72	-54	26	35	53	-44	-42	-31	-27	25	24	-31	50	45	31	-43	—
SC	68	66	-47	38	25	21	-39	-32	-43	-32	43	27	-27	34	39	23	-33	-33
RE	59	56	-31	21	24	40	-37	-35	-22	—	—	18	—	42	36	18	-37	—
ID	52	53	-37	48	37	47	-51	-42	-42	-45	27	—	-26	37	42	—	-45	-32
SO	-50	-32	24	-45	—	-37	26	30	49	58	-26	--	22	-17	-18	—	27	64
EN	-45	-40	40	-45	-35	-38	25	31	37	36	—	-35	23	-32	-33	—	39	31

Factor II	Barratt Impul.		Eysenck E	Pd			To	Ie			Aba		Dom	Q4				H
SO	68	43	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MT	33	—	19	—	—	24	—	-31	-21	—	—	-25	—	23	17	—	—	—	19

Factor III	BIS		Pd		Cm	End	Ach	Ord	Aut	G	Q3
II	88	-35	-20	-18	40	52	39	31	-31	48	42

Table 31 (cont.)

Birkman Component	Factor[1] Loading (B&I)	Eysenck	KSP	Correlations with Birkman Components CPI MS				EPPS MS				16PF AC		
Factor IV				To	Ie	Cm		Agg	Exh	Dom	Nur	L	E	Q
DO	67			-36	-24	—	—	53	34	28	-31	46	34	30
MT	59			-31	-21	—	—	23	29	23	-32	35	17	17
Factor V		N	KSP			Cm		Aut	Aba	Ach		G		
IN	74	-31	-19			-22		25	-21	-19		-21		

1 Sample of B&I in Table 18; note similarity to the factor structure of a similar sample -- sample 7 of Table 10.

2 For scale names see Table 1 for Birkman Components, Table 28 for Eysenck, MMPI, and CPI scales, Table 22 for the EPPS scales and Table 26 for the Cattell factors.

Superego Strength of Cattell. Eysenck's Lie, L, scale and the MMPI Validity, F, Lie, L, and test taking attitude, K, scales were not obtained, but it seems reasonable that some of them would have correlated with this Factor V.

A more detailed analysis of the various instruments completed by the 119 Medical Students (MS) and by 552 Medical School Applicants (MSA) at the same school in 1974 was done by factoring these as described earlier, first with the 30 Birkman components, then again with the 18 Birkman Derived Scores. The same sets of factors emerged from these different sets of variables, with virtually the same factor loadings. So the two analyses were combined in Table 32. The factor structures of the advanced medical students were very similar to those of the younger medical school applicants.

The Eysenck and Birkman Neuroticism scales, and one of the Birkman Derived Graph scales were almost identical. Several of the Derived Scores loaded negatively, as did Barron's Ego Strength. Kaplan and Pokorny's Self-Perception, the MMPI Depression, and the EPPS Abasement loaded at lower levels. All the CPI variables loaded negatively at low levels. This pattern of factor loadings is consistent with the Birkman components -- Self-consciousness, Depression, Restlessness, Indecisiveness, and negative Individuality and Energy.

The Eysenck and Birkman Extraversion scales and one of the Birkman Derived Graph scores were very similar. Birkman's Sociability, Barratt's Impulsivity, Edwards' Exhibition, the CPI Sociability and the MMPI Psychopathic Deviant (negative) scores loaded on this Factor.

The Endurance and Achievement scores of EPPS loaded (positively) with Birkman's Insistence and Energy, and negatively

Table 32

Varimax Factors of the Birkman Variables and Those of the Eysenck, Barratt, Kaplan and Pokorny, EPPS, MTPI, and CPI. 119 Medical Students (MS, Juniors and Seniors) in the first Colum and 522 Medical School Applicants (MSA) in Colum 2. (See Table 1 for the Names of the Variables, and Table 24, 25, and 26 for those of the other Variables.) (Leading Decimals are Omitted).

Factor I			Factor II			Factor III		
Instrument	Factor Loading		Instrument	Factor Loading		Instrument	Factor Loading	
Eysenck	MS	MSA	Eysenck	MS	MSA	Birkman	MS	MSA
N	84	69	E	86	77	SII	71	50
Birkman			Barratt			SEN	51	52
N1	86	86	Impul.	67	52	D2S	-81	70
D5SG	86	87	Birkman			D12IG	40	68
D1	72	68	E1	73	84	D13IG	31	45
SSC	81	73	D6SG	51	37	D6SG	-40	-30
SDE	80	76	D7	42	32	D7	-33	-27
SPE	58	66	SSO	72	78	SIN	-42	-27
SID	55	52	PER	33	30	SDO	-30	-18
D3S	-76	-81	SDO	29	30	SMT	-30	-20
D4S	-68	-54	SID	-34	-30	EPPS		
D6SG	-43	-38	D4S	-29	-31	End	65	52
SSO	-34	-25	MTPI			Ach	61	38
SIN	-45	-50	D	-47	-30	Suc	-36	-29
SEN	-54	-41	EPPS					
Barron			Exh	53	32			
Es	-55	-34	Chg	31	26			
Kaplan			Aff	30	23			
KSP	59	55	Ord	-36	-30			
MTPI			CPI					
D	45	32	Sy	61	67			
Pd	36	26	Cs	41	32			
EPPS								
Aba	38	34						
Suc	30	22						
Dom	-30	-23						
CPI								
Cs	-35	-24						
To	-42	-25						
Ie	-40	-26						
Sy	-30	-25						

Table 32 (cont.)

Factor IV			Factor V			Factor VI		
Instrument	Factor Loading		Instrument	Factor Loading		Instrument	Factor Loading	
Birkman	MS	MSA	Birkman	MS	MSA	Birkman	MS	MSA
SMT	64	47	SDO	41	33	MIN	42	20
MMT	35	27	SMT	32	20	SIN	35	54
SDO	30	25	D6SG	30	28	SDO	33	35
MUS	-31	-12				SPE	32	27
			EPPS			SMT	30	37
EPPS			Dom	41	38	Sll	35	73
Agg	72	68	Ord	45	37			
Dom	30	30	Exh	48	38	EPPS		
Chg	-30	-75	Aff	-69	-73	Suc	51	38
			Nur	-81	-80	Aba	-35	-33
MMPI						Int	-73	-57
Pd	30	25						

Factor VII			Factor VIII		
Instrument	Factor Loading		Instrument	Factor Loading	
Birkman	MS	MSA	Birkman	MS	MSA
D2M	65	76	Hll	74	75
E MOST	63	56	MIN	-55	-78
MSC	40	30	MMT	-30	-50
MSO	30	58	MDO	-27	-36
Out	-31	-20			
MID	-19	-39	CPI		
			Com	39	29
Barron					
Es	-30	-20			
Kaplan					
KSP	-30	-20			
MMPI					
D	-30	-21			
CPI					
Com	-36	-19			

[1] These are experimental scores not yet used in regular analyses.

with the EPPS Succorance and Birkman's Individuality and three Derived Scores. The EPPS Agression was correlated with Birkman's Materialism Score. The EPPS Dominance, Order, and Exhibition correlated positively with Birkman's Dominance and Materialism, and all these variables correlated negatively with the EPPS Nurturance and Affiliation scales. Intransagence and Abasement correlated negatively with Succorance of the EPPS, and with Birkman's Individuality.

These factors consolidate the variance of the individual correlation coefficients summarized in Table 31. Again it shows that several of the constructs of the various instruments are related, though they obviously measure different aspects of the domain.

Turning to the other sample, AC, the Birkman and Cattell variables were combined and factored (principal components, Varimax rotation - Table 33). In this table, most of the variables are identified by a descriptive adjective all in the same direction to make comparisons clearer. Five common factors emerged on which variables from both instruments had sizable loadings. Cattell's higher order Anxiety factor correlated with his Neuroticism and with the Birkman Neuroticism scales to a lesser degree. Tense, Apprehensive, Suspicious, and Emotional factors were the primary Cattell variables in the factor. SELF Restlessness and Depression were the primary Birkman variables. The second factor was Extraversion - Introversion. An experimental Extraversion scale of the Birkman Method loaded (i.e., correlated with the factor vector) .80 on this factor. The Birkman SELF Sociability loaded at approximately the same level as did Cattell's Happy-go-lucky and Venturesome factors. Assertive, Outgoing, Group-tied people have high

Table 33

Primary Varimax Factors Involving both Cattell and Birkman Variables.
318 Austin College Freshmen (1972); 61 Variables;
leading decimal omitted.

Item[1]	Factor 1 Description	Factor Loading
C FII	High Anxiety	90
C FV	High Neuroticism	80
B N	High Neuroticism[2]	54
C Q4	Tense	81
C O	Apprehensive	74
C L	Suspicious	34
B SRE	Restless	50
B SDE	Depressed	43
B SSC	Self-conscious	30
B D3S	Derived	35
B SEN	Low Energy	-32
C FVI	Low Leadership	-61
C C	Emotional	-76

Item	Factor 2 Description	Factor Loading
C FI	High Extraversion	93
B E	High Extraversion[2]	80
B SSO	Sociable	77
C F	Happy-go-lucky	80
C H	Venturesome	78
C FVI	High Leadership	54
C FIII	Alert Poise	47
C E	Assertive	48
C A	Outgoing	44
B PER	Persuasive	36
C FV	Low Neuroticism	-47
C Q2	Group Adherance	-55

Item	Factor 3 Description	Factor Loading
C L	Suspicious	70
B MT	Materialistic	67
B DO	Dominant	61
C E	Assertive	37
C Q1	Experimenting	35

Item	Factor 4 Description	Factor Loading
C G	Proper	73
C Q3	Controlled	69
B SII	Insistent	79
C FVI	High Leadership	42
C Q1	Conservative	-31
B6DSG	Derived	-34
B2DS	Derived	-76

Item	Factor 5 Description	Factor Loading
C FIII	Alert Poise	74
B PER	Low Persuasive	-45
B 12IG	Low Derived	-74
C A	Reserved	-53
C I	Tough Minded	-66

[1] C = Cattell; F = Cattell higher order factor; B = Birkman. See Tables 1 and 28 for the names of the variables.

[2] These Birkman scores have not been discussed, since they are still experimental.

leadership and alertness. The Birkman Persuasive score also loaded positively on this factor. Cattell's Neuroticism factor correlated only -.47 with the factor, but the experimental Birkman Neuroticism scale is essentially orthogonal with its Extraversion scale.

Birkman's SELF Materialism and Dominance were on the third factor with Cattell's Suspicious. In Factor 4, Birkman's SELF Insistence was correlated with Cattell's Proper, Controlled and high Leadership. In Factor V Birkman's Persuasive was negatively related to Cattell's higher order Factor III, alert Poise and positively with his Tenderminded and Outgoing. One of the Birkman Derived Scores correlated negatively at the same level as Cattell's leading variable on this factor.

These patterns of correlations between the different constructs of Birkman, Cattell, Eysenck, Gough and so on, show that various investigators are in fact approaching basic traits and attributes -- individual differences -- that may be measured reliably. The different approaches involve measurement of different aspects of the same domain. Otherwise, they would correlate perfectly and would be, in effect, the same test. It is important to realize that relative to the objectives of the Austin College Project, this comparison approach between different instruments actually involves reliabilities rather than validities -- properties of rather than uses of the instrument. In considering whether the Birkman Method constitutes a valid part of the Austin College Project, the pertinent criterion is the purpose for which the Birkman Method is employed. The Birkman Method does not emphasize the component constructs, and in its computational procedures, all components serve either to derive higher order scores or merely

as one of several other compensating variables. In this respect it is irrelevant what adjective is assigned to a construct -- Sociability by Birkman and Gough, Extraversion by Eysenck, Parmia, or Surgency by Cattell, or Impulsivity by Barratt. Even the knowledge that all these adjectives are being used to describe the same basic behavior is more a matter of reliability and management, than it is of validity (e.g., how necessary is it to employ a whole battery of different instruments to provide an estimate of a particular behavior?) Validity relates more to whether we need to know that it is important to measure Sociability, since a highly sociable fellow has a better chance to enter college, to complete English 101, to enter agriculture as a profession, to be an adequate center on the football team, to complete college, to be a successful teacher of vocational agriculture, to lead an adjusted, satisfying life. Eventually it should be possible to predict such behaviors from basic traits. For the present, however, more direct measures are needed to predict relevant behaviors which are vital to academic affairs: academic performance, academic tenure, indicated areas for concentration, independence, responsibility, leadership. It is in this realm of multiple regression analysis that the Birkman Method is used most widely in Business and Industry.

Kuder Occupational Interest Survey

The Birkman Interest Survey was compared with the Kuder Occupational Interest Survey, Form DD, (Kuder, 1970). Both surveys were administered to a heterogeneous sample of 47 male and 50 female Whites, approximately divided between senior high school and freshmen college students comparable to beginning Austin College Freshmen.

The mean theta coefficients for those of the Kuder occupational categories where males and females may be compared are shown in Table 34.

Considered generally, the mean theta coefficients of males and females were quite similar. Females tended to have slightly larger coefficients than males for categories involving social services, law, decoration, and for academic subjects in the liberal arts, fine arts and education categories. Males had somewhat larger mean coefficients than females for agricultural, medical, scientific categories, and especially so for sales and engineering. These latter differences were partly due to the normative samples used by Kuder for particular occupations (e.g., for every one of the 28 male scales on which females are evaluated, the mean theta coefficients for males were considerably larger than for the females). Of course, other factors are also involved in the sex differences -- social and historical differences in occupational distributions, more sharply delineated career-interest patterns of young males than females, etc. These sex differences are reflected in the Birkman Interest Components -- high scores by females on Social Service, Artistic, Literary, and Musical, and low scores on Persuasive and Mechanical (Table 35).

The correlations of the ten Birkman Interest Components with the current full range of Kuder Scales were determined for each sex separately. The two instruments are basically similar -- the Birkman Procedure infers general interest groupings from the pattern of forced-choice occupational selections, while the Kuder procedure infers occupational patterns from forced-choice selections

Table 34

Mean Kuder Occupational Interest Survey Theta Coefficients for Categories Where Male-Female Comparisons Were Possible. (Leading Decimal Omitted). (97 Young High School and College Students).

Occupations	F (50)	M (47)	Academic Subjects	F (50)	M (47)
Accountant, CPA	39	39	Economics	28	40*
Bookkeeper	37	33	Math	45	41
Computer Programmer	41	42	English	45	37*
Statistician	32	39*[1]	Education, Elem.	47	45
Mathematician	32	38	Physical Education	46	43
Journalist	29	36*	Foreign Language	49	42*
Teacher, H.S. Math	37	37	Political Science	42	39
Teacher, H.S. Science	38	40	History	46	39*
Counselor, H.S.	42	41	Psychology	47	43
Librarian	41	37	Sociology	44	44
Lawyer	41	38	Health Education	45	42
Social Worker, case	45	41	Biological Science	45	42
Social Worker, group	44	39	Physical Science	30	40*
Social Worker, psychiatric	45	40	Architecture	34	40
Physical Therapist	45	42	Art	44	39
Psychologist	43	41,42	Music	45	40
Psychologist, Clin.	42	41	Agriculture	27	37*
Psychologist, Prof.	33	40*	Engineering, Civil	26	38*
Psychiatrist	37	41	Engineering, Mechanical	26	40*
Religious Education Director	41	36	Engineering, Electrical	27	39*
Personnel Mgr.	31	40*	Engineering, Chemical	26	39*
Physician	33	38			
Pediatrician	37	41			
Optometrist	35	43*			
Dentist	34	41*			
Chemist	31	39*			
Veterinarian	28	37*			
Photographer	35	44*			
Architect	36	41			
Interior Decorator	41	38			
Florist	44	40			
Buyer	29	39*			
Department Store Sales	35	40			
Insurance Agent	26	38*			
Travel Agent	32	41*			
Real Estate Agent	29	40*			
Pharmaceutical Sales	32	40*			
X-Ray Technician	41	32*			
Engineer, Civil	28	40*			

[1] The asterisk indicates those occupations where males differ in their means from females by more than .06.

Table 35

Mean Scores on the Ten Birkman Interest Components of the Comparison Sample. 97 High School and College Students. (See Table 1 for the Names of the Variables).

Component	Kuder Sample		Strong Sample	
	Female	Male	Female	Male
PER	34	55	29	47
SS	56	41	59	40
SCI	52	61	58	62
MECH	41	63	42	66
OUT	56	71	65	63
NUM	41	34	38	42
CLK	36	24	32	32
ART	80	64	80	60
LIT	60	47	67	53
MUS	69	60	72	62

reflecting general interest patterns. Therefore, the two instruments yield patterns of correlations that are in line with expectations. Both positive and negative correlations are meaningful in this analysis -- a Birkman Interest component score is similar to a Kuder occupation (positive correlation) or it is different from it (negative correlation). This positive - negative duality between occupations is utilized in the Birkman procedure for delineating occupational interests sharply into four areas: (1) gets results with people (Persuasive, Social Services); (2) gets results by people (Mechanical, Outdoor); (3) gets results by system (Numerical, Clerical); and (4) gets results with innovation (Scientific, Artistic, Literary, Musical). The results of this comparison are presented in Table 36. As has been noted in different studies comparing different interest surveys the correlations were low (Wilson and Kaiser, 1968; Zytow, 1968; O'Shea and Harrington, 1971). Significant correlation coefficients (i.e., $p = .05$) were $r = .27$ for females and $r = .30$ for males, and these are the only coefficients considered in Table 36. Where a Birkman Interest coefficient was correlated with two or more Kuder categories of the same type (e.g., two of the different kinds of teachers, or with real-estate and insurance sales), the broader category is reported. Likewise, a category is included either where it was only available for one sex, or where it was significant for at least one sex. In Table 36 Kuder categories having significant positive correlations with a Birkman Interest Component score are presented, followed by those Kuder categories having significant negative correlations.

The results may be interpreted directly from the Table. For example, high Persuasive scores accompany high theta coefficients

Table 36

Relationship Between the Ten Birkman Components and the Fuder Theta Coefficients for Occupational Categories
Occupations Are Shown First, Followed by Academic Fields in each Category.

Birkman Components	Occupations and Academic Fields
Persuasive	Positive Correlations
	Sales categories, Lawyer, Dean of Women, Personnel Mgr., Pediatrician, Architect, Photographer, Psychology, Psychiatrist, Optometrist, Drama, Political Science
	Psychology, Chemistry, Chemical Engineering, Architecture
	Negative Correlations
	Trades and Crafts, Office and Clerical categories
	Art, Music, English, Foreign Languages, Mathematics, Physical Education, Physical Science
Social Services	Positive Correlations
	Minister, Pastor, Religious Education Director, Social Workers, Nurse, Occupational Therapist, Dental Asst., Dietician, Counselor, Teacher, Home Demonstration Agent, YWCA Secretary, Florist, Beautician
	Health Professions, Nursing, Home Economics, Teaching, Physical Education, General Social Sciences, Sociology
	Negative Correlations
	Trades and Crafts, Police, Postal Clerk, Journalist, Engineering, Photographer
	Business (Finance and Marketing), Engineering (all categories), Forestry
Scientific	Positive Correlations
	Medical Professions (5), Veterinarian, Pharmacist (and sales), Physical Therapist, X-ray Technician, Policeman, T.V. Repairman, Electrician, H.S. Science Teacher

Table 36 (cont.)

Birkman Components	Occupations and Academic Fields
Scientific (cont.)	Positive Correlation (cont.)
	Pre-Med, Pharmacy, Dentistry, Physical Education
	Negative Correlation
	Office, Clerical, and Sales occupations, Interior Decorator, Librarian
	Business Education, Humanities
Mechanical	Positive Correlation
	Trades and Crafts (14), Engineering (all categories), Medical Professions (5), Veterinarian, Pharmacist, Chemist, Policeman, Photographer, Agricultural occupations (5), Meterologist, Postal Clerk, Computer Programmer, Book-keeper, Buyer
	Engineering, Architecture, Agriculture, Physical Sciences, Physical Education, Mathematics
	Negative Correlations
	Clerical categories (4), Sales, Florist, Teaching, Ministry
	Business Education, Elementary Education, Humanities
Outdoor	Positive Correlations
	Trades and Crafts (12), Policeman, Forester, Veterinarian,
	Civil Engineering, Agriculture, Animal Husbandry, Forestry
	Negative Correlations
	Bank Clerk, Accountant, Teachers, Social Workers
	Business Education, Humanities

Table 36 (cont.)

Birkman Components	Occupations and Academic Fields
Numerical	Positive Correlations
	Office, Clerical, and Accounting (6), Statistician, H.S. Math Teacher, Bookstore Mgr.
	Mathematics
	Negative Correlations
	Social Workers, Psychologists, Psychiatrist, Pediatrician, Personnel Mgr., Photographer, Architect, Journalist
	Humanities, Psychology, Sociology, Biological and Physical Sciences, Architecture, Art, Drama
Clerical	Positive Correlations
	Office and Clerical (5), H.S. Math Teacher
	NONE
	Negative Correlations
	Sales, Medical, Scientific, Social Service, and Engineering categories, Photographer, Architect
	Health, Scientific, Engineering, Agriculture, Artistic subjects (17), English, Physical Education
Artistic	Positive Correlations
	Interior Decorator, Architect, Photographer, Clinical Psychologist
	Art, Architecture, Drama, English, Foreign Language, Music, History, Psychology, Sociology
	Negative Correlations
	Trades and Crafts, Office and Clerical, Sales, Agricultural categories

Table 36 (cont.)

Birkman Components	Occupations and Academic Fields
Literature	Positive Correlations
	Journalist, Clinical Psychologist
	English, Foreign Language, Drama, History, Political Science, Psychology, Sociology, Art
	Negative Correlations
	Trades and Crafts, Office and Clerical, Sales and Agricultural categories
Musical	Positive Correlations
	Interior Decorator, Clinical Psychologist, Lawyer
	Music, Art, Architecture, Drama, English, Foreign Languages, Psychology, Political Science, General Social Sciences
	Negative Correlations
	NONE

for various of Kuder's sales or persuasive scales (e.g., real estate agent, travel agent, insurance agent, lawyer, personnel manager and so on), while they also accompany low scores for a large number of trades and crafts, such as machinist, welder, carpenter; for office and clerical categories, such as bank clerk, bookkeeper, office clerk; and for Social Service and Cultural categories, such as physical therapist, elementary education, artistic and musical categories. Thus, the Birkman Persuasive component score categorizes precisely those occupations involved in getting results with people (i.e., selling, persuading, motivating) and it delineates these occupations just as precisely from the other three categories which do not involve high persuasive talents -- getting results by people (i.e., foreman, carpenter), by system (i.e., clerks, bookkeepers), or by innovation (i.e., teaching, art, music). On the whole, the other nine Birkman Interest components achieved discrimination comparable to that with Persuasive.

Clearly, both procedures, using distinctly different approaches, measure the same basic interest patterns. Also, it is clear that young people, 18 to 20 years of age, already have measurable, and, therefore, definable career interest patterns that are discernible by either of the two different procedures.

Strong Vocational Interest Blank

The Strong Occupational Interest Blank (Forms MT399 and WTW398) was completed by the 1972 Freshman Class at Austin College. The Strong Blanks are oriented toward occupational topics including 100 job titles to be rated "like", "indifferent", or "dislike". This direct occupational selection part of the survey is reported to be the most powerful occupational discriminator in

the test (Campbell 1969). The test also contains eight different item formats (e.g., occupational titles, school subjects, amusements, occupational activities, etc.). Campbell (1969, P.3) concludes "that item content is far more important than item format" and that "one style is not much better or worse than another". In contrast to the Kuder and Birkman surveys, there are separate forms for men and women. The present procedure with the Strong Blank develops scores for a series of Basic Interest Scales -- responses that cluster related items responded to with "Like". Five of these clusters for men are identical to Birkman Interest Components, and four simply involve a different word (e.g., Writing vs. Literary). The number of items summed for these scores ranges from 5 to 28 each. The procedure also develops occupational scales by comparing an individual's scores with those of men (or women) already well established in an occupation. The concept used by the Strong procedure, in contrast to that adopted by Kuder and Birkman, is to discriminate the interest patterns of a given occupation from a large pool of men-in-general. This pool, in contrast to the Birkman pool, is heavily weighted toward professional-technical-clerical occupations. For an occupation to be discriminated, this concept requires that the people in this occupation must be different concomitantly from <u>every</u> other occupation in the pool. This seems unduely restrictive, and it may actually cloud the issue -- for example, sales engineers must have <u>both</u> the interest patterns of engineers and salesmen, and probably also of production managers, but effective sales engineers vary widely in the "amounts" of the different patterns they possess. The Kuder and Birkman surveys depart in another way from the Strong procedure. In an

effort to reduce potential response bias, both the former procedures consist entirely of selections of two elements from an item -- containing three or more elements -- with the Kuder it is the most and least preferred of a triad; with the Birkman it is the first and second preference of a quartet. This forced choice procedure also serves to increase greatly the number of potential interest patterns -- each Kuder item can have six possible combinations -- 600 patterns from 100 items; each Birkman item can have 12 possible combinations -- 576 patterns from only 48 items. The means and standard deviations from those Strong occupations in which males and females may be compared are presented in Table 37. The means of the Austin College sample for the Birkman Interest Components are shown in Table 35. The patterns of the two samples were very similar except that the Austin College women rejected more of the numerical and clerical categories, and they accepted more outdoor occupations. The basic interests were very similar, but on most of the occupations where direct comparisons could be made, the women were especially low on Buyer, Business, Education, Chemist, Dentist, and Psychologist. They had high scores on Recreation Leader. The significant interactions with the Birkman Interest Components are presented in Table 38.

The results of the Strong Blank and of the Birkman Survey were more directly comparable than was the case with the Kuder Survey. The positive correlations of the Strong occupations with the Birkman components were straightforward and predictable whether for men or women (Table 38). However, the negative correlates with the Birkman Interest Components were somewhat less consistent than

Table 37

Mean (Rounded) Strong Vocation Interest Blank Scores for Categories Where Male-Female Comparisons Were Possible. 135 Male and 105 Female 1972 Austin College Freshmen.

Basic Interests	Means F	Means M	Occupations	Means F	Means M
Public Speaking	53	55	Lawyer	27	32
Law/Politics	54	56	Life Insurance Sales	24	27
Merchandising	47	47	Buyer-Purchaser	14	25
Office Practices	49	49	Secretary-Office Worker	29	27
Mechanical	49	46	Business Ed. Teacher	19	28
Nature-Outdoors	50	47	Banker	26	23
Math	50	50	Accountant	23	23
Science	50,54	52	Math	19	23
Medical Services	55	57	Math-Science Teacher	30	32
Social Services	53	55	Chemist	16	28
Religious Activity	50	54	Computer Programmer	29	36
Teaching	51	53	Engineer	24	24
Music	51	54	Army Officer	33	25
Art	54	54	Dentist	23	32
Writing	54	55	Physician	28	36
			Psychologist	21	31
			Physical Therapist	37	37
			YMCA Staff	35	28
			Social Worker	25	31
			Social Science Teacher	33	29
			Librarian	30	35
			Recreation Leader	36	27
			News-Writer	31	33
			Music Teacher	24	30
			Music Performer	35	40
			Artist	25	30

Table 38

Comparison of the Birkman Interest Components and the Occupations of the Strong Interest Survey Blanks; Categories Are Shown Under Each Birkman Component that Correlated $\underline{r} = .40$ for Men or Women or Both, Positively Above the Dotted Line, Negatively, Below it. 1972 Austin College Freshmen 135 Men and 105 Women

Persuasive	Social Service	Scientific
Sales Manager	Social Worker	Physician
Real Estate	Social Science Teacher	Scientist
Life Insurance	Superintendent	Biologist
Purchasing Agent	Minister	Chemist
Credit Manager	Christian Activities	Medical Service
Funeral Director	Rehabilitation	Osteopath
Chamber of Commerce Director	Guidance	Psychiatrist
Banker	Nurse	Radiology Therapist
Recreation Administrator		
YMCA Staff		
Office Worker		
Business Education		
Biological Scientist	Engineer	Office Worker
Physicist		Business Education
Mathematician		President
Chemist		
Psychologist		
Psychiatrist		
Architect		
Physician		
Engineer		
Artist		
Dentist		

Table 38 (cont.)

Mechanical	Outdoors
Carpenter	Forest Ranger
Engineer	Veterinarian
Air Force Officer	Farmer
Army Officer	
Production Manager	
Navy Enlisted Woman	
Computer Programmer	
Dentist	
Chemist	
Forest Ranger	
Farmer	
Mathematics	
Medical Technician	
Life Insurance Sales	CPA, Manager
Executive	Office Worker
Recreation Leader	Business
Advertising	Business Education
Music Teacher	
Minister	
Superintendent	
Social Worker	
Social Science Teacher	
YMCA Staff	
Rehabilitation Worker	

Table 38 (cont.)

Numerical	Clerical
CPA	CPA
Accountant	Accountant
Purchasing Agent	Office Worker
Office Worker	Purchasing Agent
Banker	Banker
Pharmacist	President
President	Real Estate Sales
Production Manager	Sales Manager
	Pharmacist
	Credit Manager
Musician	Physician
Music Teacher	Musician
Artist	Biologist
Physician	

Artistic	Literary	Musical
Architect	Author	Musician
Artist	Psychologist	Librarian
Physician	Psychiatrist	Music Teacher
Psychiatrist	Biologist	Minister
Biologist	Music Teacher	
Musician	Minister	
Librarian	Musician	
	Librarian	
Credit Manager	Veterinarian	Forest Ranger
Recreation Leader	Funeral Director	Pharmacist
Office Worker	Pharmacist	Police
Banker	Police	Banker
Purchasing Agent	Banker	Recreation Leader
Production Manager	Recreation Leader	Purchasing Agent
	Purchasing Agent	Production Manager
	Production Manager	

they were with the Kuder values. For example, only Engineer was correlated negatively with Social Service at the r = .40 level. The Strong Basic Interests and the very similar Birkman Interest Components were predictably correlated (e.g., Sales x Persuasive = .40; Social Service x Social Service = .50; Art x Artistic = .55; Office Procedures x Clerical = .50; Mechanical x Mechanical = .60; Agriculture x Outdoor = .71; Science x Scientific = .48). These two sets of basic interests were factor analyzed separately for males and females. These results are summarized in Table 39. While there were differences between the analyses for the males and the females, the basic similarity of the sets of scales for the two instruments was clear.

Thus, the occupational interest patterns are significantly correlated whether they were direct occupational choices of college freshmen using the same form for men and women as with the Birkman survey, or from the more complex assortment of preferences, mostly non-occupational, and from using separate forms as with the Strong instrument.

VALIDITIES

General

Validity is a complex concept concerned with the accuracy with which something is measured (e.g., the construct validity discussed above) or with the appropriateness of the use of an instrument or procedure for some designated purpose. Validity is not a single stamp of approval that can be affixed to a test or procedure. There is instead a separate stamp for every use to which the test or procedure is placed. If objectives are described in scientifically testable terms, the validity question

Table 39

Factor Analysis of 10 Birkman Interest Components and 22 and 19 Strong Vocational Interest Blank Basic Interest Scores for Males and for Females. 135 Males and 105 Females from the 1972 Austin College Freshmen Class. Leading Decimals Omitted.

Instrument	Scale	F.L. M	F.L. F	Instrument	Scale	F.L. M	F.L. F
	Factor I				**Factor II**		
Birkman	Persuasive	74	97	Birkman	Social Service	93	93
					Mechanical	-46	-44
Strong	Public Speaking	46	66	Strong	Social Service	70	56
	Law/Politics	30	53		Religious Activities	40	30
	Merchandising	30	36		Teaching	60	66
	Sales	56	X				
	Factor III				**Factor IV**		
Birkman	Scientific	77	72	Birkman	Mechanical	66	57
					Outdoors	31	87
Strong	Science	61	X		Numerical	-36	-80
	Physical Science	X	74		Clerical	-44	-80
	Biological Science	X	88	Strong	Mechanical	76	37
	Medical Service	84	84		Outdoors	X	40
	Mechanical	20	58		Mathematics	73	X
					Science	60	30
					Numbers	X	-30
					Office Practice	-30	-43
	Factor V				**Factor VI**		
Birkman	Outdoors	91	X	Birkman	Numerical	51	X
	Mechanical	34	X		Clerical	60	X
	Numerical	-62	X		Artistic	-67	-80
	Clerical	-64	X		Literary	-76	-49
					Musical	-86	-14
Strong	Nature	73	X				
	Agriculture	86	X	Strong	Art	-70	-54
	Adventure	40	X		Writing	-80	-33
	Mechanical	30	X		Music	-82	-17
					Performing Arts	X	X

Instrument	Scale	VI	VII
	Factor VI		
Birkman	Numerical	X	X
	Clerical	X	X
	Artistic	-80	X
	Literary	-49	-55
	Musical	-14	-88
Strong	Art	-20	
	Writing	-34	
	Music	-70	
	Performing Arts	-70	

may be approached directly with criterion-related validation (i.e., concurrent or predictive (cross or longitudinal) validities). Do the results with an instrument predict the desired criterion? In many situations mere validity for some criterion is irrelevant if the criterion has little utility for the purpose intended. Interest in science has utility for the criterion of satisfaction as a scientist, but it has limited utility as a predictor of success as a scientist. For this, ability, motivation, perserverance and the like must be considered as well as interest (James, 1973).

In some cases the relationship between a test and an objective or intention is so obvious that content validity of the test can be considered. If, for example, it has been established experimentally that a student must have completed six semester hours of college algebra before he can understand (i.e., pass) a beginning course in calculus, the pre-requisite requirement for calculus of algebra is a valid one. If it can be shown similarly that an engineer must have completed a six-hour course in calculus before he can be a successful engineer, calculus is a valid requirement for a degree in engineering.

Consideration of such validities is straightforward and of rather obvious relevance to academic institutions. Even so, content validity for virtually all academic requirements rests squarely on assumptions of relevance and importance. Regardless of how much undocumented experience lies behind such assumptions, until the relevant data are subjected to appropriate scientific scrutiny, only face validity is possible -- "it has been our experience (or, it seems obvious that...) a graduate student who cannot read some Germanic language cannot be a successful scientist".

Face validity is sometimes called upon to support rather strained assumptions (e.g., "our physical education program improves our student's physical condition and, therefore, their bodies, and therefore, their mental state, and therefore, it aids them in the pursuit of their college career, and therefore, it must lead to better qualified graduates, and, therefore, it is valid to allot the required time and resources to this program, and to ask the parents and taxpayers to support this requirement,")...and so on! The point being belabored is that few aspects of academia have been validated to date. Even precise (i.e., validatable) definitions of objectives have seldom been made relative to such critical matters as curricula; course content, duration and sequencing; evaluative and reporting procedures; class organization and assignment; teaching methods; extracurricular activity programs; and so on.

A significant broader goal of the Austin College Project is to begin a systematic examination of objectives -- what is the purpose of a degree, of a particular course, of a particular part of a course, of a particular student activity? The Birkman Seminar forms a part of one such activity -- The Communications/Inquiry.

The imprecisely stated purpose for using the Birkman Seminar is to bring about an "increase" in the students' understanding of themselves and of their behavior and relations with others. Since the Seminar is based upon objective statistical parameters determined from the Birkman Questionnaire, validation of the Seminar per se also involves validation of the Questionnaire (e.g., does the Questionnaire yield narrative statements that are valid reflections of a person's needs and behavior). Few guidelines exist for validation of a complex procedure such as this Seminar. The

majority of motivational-self-awareness procedures have no statistically determined foundation, and few of these attempt to mold the presentation around pre-established quantitative individual differences. The Birkman procedure involves discussion in a group setting of six individually predicted broad behaviors expressed in narrative form.

The validity of the individual narrative statements as constructs was approached by asking the 1972 freshman class to make self-judgments as to the accuracy of each statement in a student's six page narrative report. For each page, there is a narrative statement about a basic need, two statements of the strengths a person exhibits when this need is met, and two behavioral patterns expected when the need is not met. Occasionally, an additional statement is required.

At the start of the Seminar in 1972, each student was given two copies of his report. He read one copy to himself before there was any discussion of it, and marked each paragraph in the left margin of a copy: Agree, Disagree, or Uncertain. The pre-seminar copy, checked for agreement, was collected. After extensive discussion of these same reports in the Seminar, the student re-evaluated his initial self-judgments in the same fashion. Students were urged on both occasions to make careful, considered judgments, as they were important for research purposes, and that the results would not be used in considering grades, etc. Two control groups were used -- one was not asked to make the judgments on either occasion, and another was asked to do so only after the Seminar. However, these controls did complete the next phase of the experiment described below.

Many of the six statement-combinations of the 123 possible statements occurred in the more than 300 students involved. More than half of the statements within a given need page were received by sufficient numbers of students to permit statistical analysis. The results are presented in Table 40. Even with the acquiescence factor considered (e.g., Ulrich, et al, 1963), the degree of Agreement was substantial -- above 90 percent -- and it increased after the Seminar.

The 1972 freshman class was also asked to rate the potential and actual values of two activities that were common to all selections of C/I. (They also rated several activities that were not common at all.) The potential value of the Birkman Seminar was rated at 4 or 5 on a 5-point scale (1 = low, 5 = high) by 79 percent of the students. Fifty-five percent rated the Seminar as 4 or 5 in actual value. It was rated as 3 or above in actual value by 84 percent of the students as compared with 39 percent of the same ratings of actual value for a TV Introduction to Computers. Both procedures were rated 3 or above in potential value by over 90 percent of the students. Thus, it appears that the students judge that the Birkman Seminar is potentially useful and that it lives up to its potential. These data are presented in Table 41.

At the completion of the Communication/Inquiry (C/I) in 1973 the students were asked to complete a questionnaire about the program (Appendix 1). All of the questions except for a few relating to the Birkman Seminar were rated on a scale of 1 (low) to 5 (high). The means of these ratings are shown in Table 42). These ratings were factor analyzed (Principal components factoring, Varimax rotation; extraction criterion - eigen value less than 1.00; Harman,

Table 40

Frequencies of Agreement - Disagreement with the Individualized Birkman Seminar Pages. (1972 Freshman Class At Austin College)

Rating Pre-Post Seminar	Frequencies of Dual Rating Categories by Topic (Page) Number						
	1	2	3	4	5	6	Total
				Needs			
Agree-Agree[1]	262	271	265	264	270	264	1596
Agree-Disagree	7	4	10	10	8	6	45
Disagree-Agree	21	10	10	8	13	9	71
Disagree-Disagree[1]	24	29	29	32	23	35	172
				Ordinary Behavior			
Agree-Agree	313	311	312	311	309	312	1868
Agree-Disagree	0	0	1	0	0	1	2
Disagree-Agree	0	1	0	2	2	1	6
Disagree-Disagree	1	2	1	1	3	0	8
				"Stress" Behavior			
Agree-Agree	302	300	297	302	292	309	1802
Agree-Disagree	3	1	2	0	0	0	6
Disagree-Agree	4	2	3	2	4	0	15
Disagree-Disagree	5	11	12	10	18	5	61

[1] Most of the students rated their narrative statements both before and after the seminar. The smaller control groups rated their narrative pages either only before or only after the seminar; the results were not significantly different, so the control data were combined with that of the experimental groups.

Table 41

1972 Freshmen Class Ratings of C/I Activities at Austin College

Activity Selected	Value Potential / Actual	Number Selecting	Rating[1] 1	2	3	4	5
Birkman Seminar[2]	Potential	301	9	8	45	94	145
	Actual	296	23	25	87	106	55
Computer Introduction on TV[2]	Potential	298	13	12	57	101	115
	Actual	296	86	95	74	23	18
C/I Film Series	Potential	13	0	0	1	1	11
	Actual	13	0	1	0	4	8
C/I	Potential	8	0	0	0	2	6
	Actual	8	0	3	2	1	2
Sensitivity Sessions	Potential	4	0	0	0	2	2
	Actual	4	0	1	0	1	2
Group Involvement	Potential	4	0	0	0	1	3
	Actual	4	0	0	1	2	1

[1] 1 Poor, 5 Excellent.

[2] Explicitly specified; other choices were those written into blank spaces provided.

TABLE 42

Means of Student Ratings of C/I, 1973 Class (Appendix I).
The Scale was 1 (Low) to 5 (High), except for the
Birkman Seminar Items Under Section B Where a 3-Point Scale was Used: 1=too small, little, etc. and 3=too big, too much.

I Faculty Leader

Item	Mean	Description
1	4.1	Knowledgeable
2	3.8	Relates Well
3	4.2	Understanding
4.	4.3	Available, Friendly
5	3.9	Respected
6	3.9	Enthusiastic
7	3.1	Helped Me
8	3.7	Knows Me
9	3.7	Good Rapport
10	3.7	Good Discussor
11	3.9	Quick Grasp
12	3.9	Maintains Control
13	3.6	Relates Topics
14	3.1	Interesting Assignments
15	3.7	Creative Assignments

IV A. Birkman Seminar

Item	Mean	Description
1	3.3	Dealing with Others
2	3.1	Arranging Activities to Meet Commitments
3	3.3	Working in Groups
4	3.1	Working Under Competition
5	3.1	Adjusting to Pressure to be Effective
6	3.1	Accept Authority
7	3.6	Make More Effective Decisions
8	3.0	Coping with Conflict

II. Faculty Leader

Item	Mean		Description
		Adjective List	
	Importance	Rating	
1	4.3	4.1	Understanding
2	4.4	4.3	Friendly
3	4.7	4.3	Interested
4	4.6	4.1	Open-Minded
5	4.7	4.1	Communicates
6	4.4	4.3	Knowledgeable

III. Student Leaders

	Importance	Rating		
		Ldr. 1	Ldr. 2	
1	4.5	4.1	3.6	Understanding
2	4.5	4.3	3.8	Friendly
3	4.6	4.2	3.7	Interested
4	4.4	4.2	3.7	Helpful
5	4.6	4.2	3.7	Communicates
6	4.0	4.4	3.9	Intelligent

V. C/I Course Goals

Item	Mean	Description
1	3.9	Know A.C. Facilities
2	3.2	Know A.C. Electives
3	4.0	Know A.C. Traditions
4	4.1	Begin Classes

TABLE 42 (Continued)

IV A. Birkman Seminar

Item	Mean	Description
9	3.2	Keeping our Objectivity even when in Conflict
10	3.2	Analyzing Match of Course Selection and Personality
11	2.9	Adjust to Self-scheduling
12	2.9	Balancing Time-School-Other-Self

IV B. Birkman Seminar (Scale 1-3)

1	2.2	Too Large
2	2.0	OK
3	2.0	OK
4	2.2	Too Long
5	2.4	Highly Accurate

Scale (Yes=1; No=0)

6 Self	1.4	Changed View of Self
7 Most	1.4	Changed View of Others

V. C/I Course, Goals

Item	Mean	Description
5	4.0	Participate in a Study
6	3.3	Develop Identity
7	3.6	Reappraises Values
8	3.8	Participation, intellectual
9	3.7	Developing Skills
10	3.4	Projected Goals

1960) separately for Faculty Leader, Student Leaders, the Birkman Seminar, and the C/I. They were also factored together in a single analysis.

The Faculty Leader's ratings had five factors, three of which were interpretable. These three factors are shown in Table 43. Factor 1 seems to relate to succorance-nurturance -- "the leader was friendly, accessible, understanding, involved with students; he was open-minded, and respected";"he developed good rapport" and "was good as a discussion leader"; "he helped me get started in college",or conversely. Factor 2 consolidates variance relating to the leaders' knowledge, intelligence, ability to maintain structure and to relate his topics to students in an interesting fashion. Factor 3 relates to the leaders' making interesting, stimulating, creative assignments. Factor 1 is similar to Frey's (1973) Teacher Accessibility factor, and Factor 2 relates to his Teacher's Presentation factor. Factor 3 may be similar to his Organization-Planning factor.

The variance in the ratings of the two student leaders of each group split in the factoring along the ratings of the first, the second, and the importance ratings. Only two adjectives yielded separate factors: Intelligence (importance, .65; Leader 1, .56, and Leader 2, .48), and Friendship (importance, .84, Leader 1, .47, and Leader 2, .26). Because of this inconclusive analysis, these ratings were not included in the analysis of the combined ratings.

The first 12 ratings of the Birkman Seminar loaded on Factor 1 with factor loadings (F.L.) that ranged from .64 to .85. Students who rated one aspect of the seminar high, or low, rated all aspects

Student Ratings of C/I, 1973. Varimax Factors from 225 Students who Completed the Rating Schedule (Appendix I). Leading Decimals of the Factor Loadings are Omitted.

Faculty Leader

21 Variables

Item	Factor 1 Description	F.L.
4	Available, Friendly	84
5	Respected	75
3	Understanding	73
6	Enthusiastic	67
7	Helped Me	62
9	Good Rapport	62
8	Knows Me	58
10	Good Discussor	57
2	Relates Well	54
1	Knowledgeable	46
11	Quick Grasp	49
	Adjectives	
1	Understanding	79
2	Friendly	79
3	Interested	78
4	Open-minded	76
5	Communicates	80
6	Knowledgeable	49

Item	Factor 2 Description	F.L.
13	Relates topics	72
1	Knowledgeable	64
12	Keeps Structure	59
11	Quick Grasp	52
2	Relates Well	52
14	Interesting Assignments	51
10	Good Discussor	50
6	Enthusiastic	38
	Adjective	
6	Knowledgeable	47

Item	Factor 3 Description	F.L.
15	Creative Assignments	68
14	Interesting Assignmnts	55

C/I

10 Variables

Item	Factor 1 Description	F.L.
5	Participation	82
8	Participation	78
7	Reappraise Values	69
9	Develop Skills	48
6	Develop Identity	43

Item	Factor 2 Description	F.L.
1	Know A.C. Facilities	76
3	Know A.C. Traditions	74
2	Know A.C. Electives	67
4	Begin Classes	65

Item	Factor 3 Description	F.L.
10	Project Goals	75
9	Develop Skills	68
6	Develop Identity	62
2	Know A.C. Electives	45
7	Reappraise Values	38

in the same direction. Factor 2 involved the student's view of the accuracy of his Birkman report (F.L. = .65), and whether the seminar expanded his view of himself (.82) and of other people (.70). These global ratings were only moderately related to the detailed ratings of specific aspects of the seminar of Section IV A (Appendix 1), although students who rated the seminar as accurate, etc., also rated it as having benefited them in analyzing how well their decisions about school and career matched their personal needs (.34), and in understanding how their personality influences the way they make decisions (.30). Factor 3 involved the duration (.78), detail (.74), and conduct (.67) of the seminar. Some students rated the seminar as too long, too detailed and too "lectury" -- others rated it in the reverse direction -- but this was unrelated to how a student rated any of the other factors. In fact, it was also unrelated to how they rated either their instructor or the C/I -- these three items were the only ones loading on one of the factors from the combined analysis to be discussed below.

The ratings of the C/I yielded three factors (Table 43). The first factor involves students' ratings of their personal involvement in the C/I sessions -- participation in the study of a significant issue, participation in intellectual group activities, and re-appraisal of values. Factor 2 might be characterized as an orientation factor -- the role of C/I in the student's becoming acquainted with Austin College, its facilities, potentialities, and traditions, and getting started with college work. Factor 3 involves planning and organization -- projecting the student's educational and vocational goals, developing his communications

skills, developing his personal identity, learning the range of elective opportunities, re-appraising personal values.

The combined analysis yielded little additional insight into the student attitudes about the C/I program. There was an instrumental factor for each of the three rating schedules. Those students who rated their faculty leader high also rated C/I high and vice versa. Those who rated their Birkman report as highly accurate (F.L. = .69) also rated the seminar as too detailed (.31), as having too little lecture (-.30) and they rated their faculty leader as maintaining structure and control of his sessions. Another factor combined the common variance in students' ratings of C/I in projection of his school and career plans (.46), and in development of his identity (.37), with a faculty leader who is informed about his students (.42). All of the ratings of C/I dealing with anticipation, discovery, and development (i.e., Section V, 5-10), with F.L. of .54 to .78, were associated with faculty leaders who related their topics to the student's needs (.38) and who developed rapport with the group (.32).

Perhaps the most significant observation to be made from the combined analysis was that the first Principal Components factor -- the mean differences factor -- combined all the ratings except those structural features of the Birkman seminar (Items under IV B). This indicates that students who rated one of the features of C/I (i.e., leader, seminar, course) high or moderate or low, did so also with the other features -- they liked the entire program or they did not like the program. The means of Table 42, indicate that most of the students did in fact like the program.

Stability of Needs

A fundamental question is whether and how much a basic need changes during the high school-college years. It seems probable that the higher order, basic personality variables underlying the needs are quite stable, much as a person's weight and height are. However, just as a slight youth may become a powerful adult, the incompletely defined personality of the youth may be expected to expand and to develop as he matures and as his horizons expand.

Each person develops a repetoire of behaviors to support his basic personality traits. Of course, unpredictable behavioral changes do occur. There are always minor variations in behavior both between occasions and between people. Volitional changes are common as a result either of self-improvement programs or of stress. Long-term veneers are applied over the basic pattern by the institutions of our society and the mores of our culture. These veneers vary in thickness and persistence. Even with these modifying influences, the patterns of behavior exhibited within broad personality types are sufficiently similar to permit their reliable prediction (Sadler and Mefferd, 1971; Sadler, Mefferd & Houck, 1971).

A person's needs arise from three major sources:

(1) We are human, and as such we all have common needs such as have been treated at length by Maslow (1954) and others in terms of generalized man and culture.

(2) We are born into a particular culture that has an established value system. Continuing pressure is exerted to impart these values to the members of the culture with little regard to differences between individuals.

(3) However, humans differ individually -- each has his own personality, intelligence, and physique. This results in a wide array of vastly different values for different cultural and basic human needs. Even the semantic definitions assigned to different values and needs by different people vary. "Being neighborly" is not the same (in terms of Eysenck's and Eysenck's (1968) typology), to an introvert and an extrovert; "worry" has different meanings to neurotic and non-neurotic (stable) persons; "being meticulous" in one's work has vastly different meanings for the neurotic extrovert and the stable introvert; "assuming responsibility" or "delegating authority" are approached differently by neurotic introverts and stable extroverts. It is recognition and utilization of such individual differences that is the central theme of the Birkman Method.

With these diverse influences constantly operating, it would be surprising were the needs treated in the Birkman Seminar not to change in the formative years. Youths are faced with pressure to adapt and conform, and undoubtedly all make some effort to do so. However, they also are under intense personal pressure to be independent and individual, to develop an identity. This results in resistance to cultural sponsored values. The Birkman Seminar often represents the first time these Austin College young people have seriously observed and analyzed themselves with objective, individualized data as a basis. The same is usually the case about other people's needs. For the first time perhaps, they discover that there is nothing "bad" or "good" about being different. A frequent experience of seminar leaders is that seminar participants often express surprise about the seminar -- about their own report and particularly about those of others. In this context where a young

participant does not yet know himself, it is relevant to begin with such discoveries. Participants usually judge the statement to be an accurate description of their own behavior (e.g., at the completion of the C/I, 225 of the 1973 Freshmen at Austin College judged the statements to be a mean of 2.4 (S.D. = 0.61) accurate on a 3-point scale: 3 highly accurate, 2 OK, 1 highly inaccurate). This result must be tempered by the well-recognized tendency to agree at the time of reading them that the general descriptions about themselves are accurate, even though the statements were not derived from assessment procedures (Ulrich, Stachnik and Stanton, 1963). To reduce this effect, the judgments about the accuracy of the Birkman Reports was delayed for several weeks after the Seminar (i.e., the ratings were made upon completion of the C/I).

A rigorous test of the accuracy (and therefore also of the reliability) of the need statements was made in the group of 50 sophomores at Austin College who repeated the Birkman instruments in 1973. The six basic needs for each student were computed for each occasion. For each of the six basic seminar topics covered in the Birkman Seminar, there are a possible 20-22 variant needs. These needs are spaced along a dimensional scale that starts at one extreme and ends at the other extreme of a topical need area. The stability of need selection may be evaluated in terms of the number of variants or steps between the selected need on each of the two occasions that the students completed the questionnaires. The results are summarized in Table 44. The largest category with each seminar need was zero--students who received the identical need statement on each occasion. Half the students changed no more than four variant steps, while three-fourths changed fewer

Table 44

15-Month Stability of Need Selection of 50 Austin College 1973 Sopharores

Seminar Topic	Amount of Change Along a Dimension of 1 to 22[1]													
	0	1	2	3	4	5	6	7	8	9	10	11	12	13-21
1	15	9	9	6	4	1	1	1	1	2	1	0	0	0
2	13	12	14	2	0	3	3	2	0	0	0	0	0	1
3	11	4	7	2	2	8	4	0	4	1	4	1	0	2
4	14	11	6	7	2	2	1	3	1	1	1	0	0	1
5	12	4	7	7	5	1	3	3	2	2	2	0	1	1
6	16	8	7	4	7	2	2	2	1	1	0	0	0	0

[1] Each basic Seminar topic has 20-22 variant needs that are spaced along a dimension from one extreme to the opposite extreme. A 0 means that a student received the same variant each time; a 1 means that the two variants were adjacent along the dimension, etc.

than six variant-steps out of the 20-22 possible steps. Only one or two students changed for any one topic by as much as half the total scale. This indicates that only a slight to moderate change occurs in needs during the first year of college. This fact also illustrates that the combination of scores on which the 123 different narrative statements are based has greater stability than in the case with the individual component scores. This high degree of stability supports the view that the narrative statements are valid reflections of "real" factors. This stability occurs as a function of the compensatory process involved in all scoring procedures of the Birkman Method.

Verbal Comprehension

In the business usage of the Birkman Method for predictions of classification, performance, leadership potential, etc., the vocabulary score is found to be highly incremental. On almost all of the several hundred multiple regression equations in current use, this score has significant beta-weights. Therefore, it may be of considerable importance at Austin College when predictions of academic factors are made.

The Birkman Vocabulary is a machine scorable word-matching test consisting of three parts, each with a possible raw score of six points. The parts are of increasing difficulty based on a developmental sample of almost 1000 young people, half of whom were from minority groups of Blacks and Chicanos. It correlated $r = 0.77$ with the Otis Quick Scoring Test (Otis & Lennon, 1967) for a group of 132 children (9-11 years of age). The 1973 Austin College Freshmen completed the Birkman Vocabulary, the W.A.I.S. Vocabulary, (Wecksler, 1955), and the S.A.T. Verbal and Mathematical Scales

(College Entrance Examination Board, 1964). The means, standard deviations and intercorrelations for these tests are presented in Table 45. The correlations of the Birkman Vocabulary with the other two tests are almost the same as they are between the two longer tests.

CULTURAL AND SEXUAL FAIRNESS

Psychological instruments to be used in academic settings should yield discriminations that are based on relevant individual differences and not on irrelevant group differences. Groups commonly encountered in colleges that are irrelevant for discrimination purposes are of sexual, ethnic and socio-economic origins. It is important that actions based on the results of the Birkman Questionnaire not differ solely as a result of such group differences.

To examine this question, three samples of comparable age (18-20 years) were compared (Table 46). All subjects took the Birkman Questionnaire under similar conditions. All of the Chicanos spoke English and most of them were also bilingual. Due to their small sample size, the Whites in the Summer Student Employment Program, and the Chicano female job applicants were not included in the analysis. Thus, eleven groups were compared.

The analysis was done first at the item level -- the True or False answers to the 125 SELF and 125 MOST PEOPLE questions, and the first, second, or two non-choice items of the 192 INTEREST occupations. The question tested was: Do different groups of people tend to answer the questions and make occupational choices in different ways?

Table 45

Comparison of the Birkman, W.A.I.S. (Wechsler, 1955) and S.A.T. (College Entrance Examination Board, 1964) Vocabulary Scores (177 Males and 99 Females, Austin College Entering 1973 Freshman Class).

Verbal Score	Mean		Std.Dev.		Correlations, Male/Female			
	M	F	M	F	Birk.	W.A.I.S.	S.A.T. Verb.	S.A.T. Math
Birkman	10.2[1]	11.1[1]	2.64[1]	2.60[1]	X			
W.A.I.S.	55.5	59.5	10.2	10.4	57/71	X		
S.A.T. Verbal	500	528	100	113	65/71	67/81	X	
Math	554	537	101	91	41/44	55/47	69/60	X

[1] Raw scores

Table 46

Characteristics of Subjects Used for Analysis of Cultural Fairness

Source	Grouping					
	Ethnic	Socio-Economic	Education (Years)[1]	Age (Yrs.)[1]	Sex	N
Austin College (1972 Freshman Class)	White	Upper	12	18	M	190
					F	141
Metropolitan Summer Student Employment Program in 1972[2]	Black	Lower	12	18	M	201
					F	192
	Chicano[3]	Lower	12	18	M	35
					F	41
Applicants for Laborer Jobs at a large factory in 1972	White	Lower	9	20	M	515
					F	50
	Black	Lower	9	20	M	557
					F	137
	Chicano[4]	Lower	9	20	M	141

1 Rounded values

2 There were too few Whites for consideration.

3 Spanish surnames

4 Only 7 Spanish surnamed females applied for work

The means were computed for each item for each of the 11 groups. Thus, for the White male group at Austin College there were 125 SELF item means, one for each of the 125 SELF questions, and another 125 for the MOST PEOPLE items. These means ranged from 0.0, where all persons in a group answered the question True, to 1.0 where all answered it False.

Thirty of these item means for the MOST PEOPLE and SELF questions for the males and females of the three ethnic groups are shown in Table 47. This item-sample consisted of two continuous runs of 15 items each with the two starting points (i.e., item 18 and 93) selected from a table of random numbers. Analysis of variance failed to reveal significant (i.e., $p = .05$) sex or race differences or interactions involving these for either MOST PEOPLE or SELF. Of course, the differences between the different item means were highly significant.

These overall item means (rounded for clarity) for the 125 questionnaire items are presented in Table 48. It is obvious that within any relevant comparison-group, there are no significant differences between these means. There is no indication of a pervasive influence due to differential acquiescence or social desirability factors. There is no suggestion that the questions are answered differently on the average by any of these 11 groups. However, this possibility was tested further as described below. For this analysis the INTEREST items were also used. These groups also had 196 means for the INTEREST occupations. In the INTEREST Survey, occupations are presented in sets of four from which forced first and second choices are made. The first choice is scored 2, the second 1, and the two not chosen, 0. The mean for each quartet

TABLE 47

Item Means for two Randomly Selected Runs of 15 Items Each for the Birkman MOST PEOPLE and SELF Questionnaires for the Males(M) and Females(F) of Three Ethnic Groups[1]

Item Number	MOST PEOPLE[2]						SELF[2]					
	White		Black		Chicano		White		Black		Chicano	
	M	F	M	F	M	F	M	F	M	F	M	F
N	196	143	201	192	35	41						
18	49	52	54	66	54	66	64	69	66	72	69	80
19	10	06	26	24	20	17	39	32	52	48	40	39
20	38	41	25	27	31	26	22	21	17	12	17	17
21	31	28	31	28	36	32	26	28	22	18	17	12
22	33	36	40	47	39	40	87	90	77	83	73	88
23	29	24	32	30	31	29	40	33	56	48	49	51
24	54	62	34	36	26	24	46	48	21	14	17	15
25	36	28	46	44	51	51	57	55	66	66	70	68
26	36	36	39	43	43	50	53	47	60	65	57	51
27	18	13	41	41	51	46	19	15	53	53	51	54
28	49	47	47	46	41	50	56	60	65	69	66	69
29	31	29	36	30	37	30	15	16	23	15	29	15
30	51	54	43	38	37	34	63	68	54	58	57	61
31	66	71	54	58	51	49	65	67	42	38	43	36
32	39	36	43	34	43	36	80	86	76	85	80	86
93	25	29	30	29	21	29	55	69	53	66	60	66
94	41	42	35	34	40	34	56	60	54	56	69	68
95	75	73	62	68	71	66	77	78	69	80	74	80
96	68	70	44	46	51	59	97	99	80	88	86	88
97	61	57	48	51	40	38	45	36	38	38	43	41
98	12	11	24	19	25	17	28	36	31	34	37	38
99	04	04	18	19	20	15	34	37	51	54	49	46
100	44	48	57	60	49	44	13	10	37	30	34	28
101	36	36	42	38	38	44	36	36	55	46	54	46
102	50	56	35	29	46	39	70	76	65	69	74	73
103	46	32	40	37	20	29	40	32	31	26	34	26
104	37	34	47	53	49	38	27	24	33	24	29	29
105	48	44	37	34	40	34	54	44	54	55	46	56
106	09	10	18	12	26	20	36	41	35	38	33	42
107	18	16	27	20	23	20	46	54	57	60	57	49

[1] White = Austin College; Black and Chicano = Students in Metropolitan Summer Employment Program.

[2] ANOVA,

	MOST PEOPLE	SELF
Ethnic Group x Sex X Item	F=0.39	F=0.12
Ethnic Group x Item	F=0.55	F=0.52
Sex x Item	F=1.83(1/29 d.f.)	F=0.25

Table 48

Comparison of the Proportion of True and False Answers on Individual Items from the Birkman Questionnaire by the Males and Females of Three Ethnic Groups

Ethnic Group	Item Means[1]				Standard Deviations			
	MOST PEOPLE		SELF		MOST PEOPLE		SELF	
	M	F	M	F	M	F	M	F
	Students: College and High School Summer Employees							
White	44	42	48	49	24	25	24	27
Black	40	37	51	51	13	16	17	23
Chicano	40	37	51	51	16	17	19	23
	Applicants: Laborer Job							
White	41	38	51	50	23	23	31	33
Black	39	37	54	53	21	21	31	32
Chicano[2]	39	—	53	—	20	—	31	—

[1] A True answer = 0, a False answer = 1; thus, an item mean of 0.50 = half True and half False answers on that item. The leading decimal point is omitted. The means for interest items are not shown. Since the first occupational choice was scored 2, the second 1 and the two non-selected items, 0, the mean for any quartet of occupations, and for any number of quartets is the same — 0.75. Of course, the individual item means and the component scores do reflect interest patterns.

[2] There were too few Chicano females to permit analysis.

as well as for the summed total of 196 items is 0.75. However, the mean for each of the 196 individual occupations reflects directly its popularity, and these, rather than the quartet means, were the items used for the present analysis.

A pattern analysis was done by correlating the item means within each set (e.g., the 125 item means of the SELF questionnaire) for each of the 11 comparative groups. These correlations are shown in Table 49 for pertinent sex and Ethnic group comparisons. The magnitude of the correlation required for significance is shown in the Table. Positive correlations indicate that the groups being compared were similar in the way the 125 questions were answered or in the 96 occupations that were selected from the 192 possibilities.

Every correlation in both tables is significant, and, except for the expected differences in the occupational preferences of males and females, they were very similar between the various group comparisons. Even this sex difference at the item level has disappeared by the time the items are combined into the final scores shown also in Table 49.

The ethnic group-sex item means displayed such striking similarity that they appear to be random samplings from the same overall population regardless of sex or ethnic groups. They are, in fact, independent estimates of the population mean. This is especially impressive with the Chicanos in the face of the potential language difficulty. It is also impressive when one considers the very great socio-economic difference between Whites at Austin College (who were largely from affluent, highly educated families), and the Blacks of about the same age who were applying for jobs as

TABLE 49

Correlations of Means of Items, Components and Derived Scores of the Birkman Instruments for Males and Females of Three Ethnic Groups (See Table 46). Leading Decimals Omitted.

Comparison[1] Group	Items			Components[4]			Derived[5] Scores	Final[6] Scores
	Most	Self[2]	Interest[3]	Most	Self	Interest		
Male			Ethnic and Socio-Economic Group Correlations					
Wac x Wapl	75	76	70	79	61	77	94	95
Wac x Bc	78	76	61	84	74	58	98	90
Wac x Cc	71	79	67	85	81	82	99	94
Wapl x Bapl	95	96	66	96	96	74	97	92
Wapl x Capl	94	97	85	95	80	91	99	96
Bc x Bapl	90	91	86	93	81	72	96	97
Bc x Cc	87	91	80	96	98	92	96	98
Bapl x Capl	96	98	86	99	99	92	99	98
Cc x Capl	91	91	82	92	81	87	96	96
Female[7]								
Wac x Wapl	73	76	40	39	74	55	93	98
Wac x Bc	76	80	36	84	69	08	93	78
Wac x Cc	71	83	56	71	75	55	98	85
Wapl x Bapl	89	95	39	81	95	12	94	83
Bc x Bapl	80	91	89	92	91	75	97	96
Bc x Cc	82	94	91	95	98	83	96	97
			Male x Female Correlations					
Wac				98	89	62	96	97
Wapl				90	96	69	95	96
Bc				98	91	07	92	94
Bapl				95	97	39	92	96
Cc				97	87	08	94	95

[1] W = White; B = Black; C = Chicano; AC= Austin College; C = City Student Employees; APL = Applicants for Factory Job.

[2] 125 Items; r for p .05 =.17.

[3] The 96 items selected from the 192 Interest items; r for p.05 = .20.

[4] 10 Component scores in each category.

[5] 18 Derived scores.

[6] 48 Component and Derived scores; r for p.05 = .29.

[7] There were too few female Chicano to permit analysis.

laborers. Some of the latter had difficulty reading the questionnaire and required assistance in completing the forms, yet their answers were essentially the same as the Austin College Whites.

While the broad tendencies were to answer questions similarly across groups, individual questions were often answered differently by one or more of the 11 groups. However, the scoring schema for the Birkman components is compensatory -- each question has the same weight as any other, and there are six or more questions scored for each component. A False answer on one question may be fully compensated for by a True answer on another.

The characteristics of the component scores are summarized in Table 50 for the means and standard deviations for males and females of the three ethnic groups. The ten component scores for each category of scores (MOST PEOPLE, SELF, INTEREST), were averaged for each person. These three component means were the data for the analysis. While none of the mean differences are significant, some other tendencies were evident. Females had higher MOST PEOPLE scores and within a sex, Whites had the lowest MOST PEOPLE scores regardless of educational level. Only with respect to educational level were there differences in the SELF means -- the applicants all had lower scores than did the students. Surprisingly, there was no consistent sex-difference with INTEREST components means, but affluent White students had the highest means of all, and all students were higher than the applicants.

The intercorrelations between these component scores for pertinent comparisons of sex and ethnic groups were presented in Table 49. While several coefficients differ from each other significantly, all differ from zero significantly ($p = .05$). The

Table 50

Comparison of Ten Component Percentile Scores from the Birdman Instruments for Males and Females of Three Ethnic Groups (see Table 46).

Ethnic Group	Component Means								Component Standard Deviations							
	Most People		Self		Interest		Overall Mean [48var.]		Most People		Self		Interest		Overall Mean [48var.]	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Students: College and High School Summer Employees																
White	60.5	62.3	50.5	50.0	52.7	53.7	51.1	51.0	18.6	17.9	13.6	14.5	13.3	18.5	22.3	23.0
Black	64.4	66.5	53.7	53.4	51.7	50.4	53.3	51.9	17.9	17.4	18.6	19.1	12.6	13.9	23.0	23.1
Chicano	64.2	65.9	53.4	52.7	51.7	50.6	52.0	51.5	18.2	14.2	17.8	16.5	12.6	11.4	22.7	22.4
Applicants: Laborer Job																
White	58.8	60.2	47.2	44.5	48.4	49.4	43.2	47.5	12.4	11.0	21.7	22.8	19.8	14.6	22.1	21.7
Black	61.4	62.9	46.2	45.9	49.5	47.8	48.4	47.9	14.3	14.4	25.5	24.0	14.4	14.9	22.6	23.0
Chicano[1]	61.9	——	46.3	——	49.0	——	48.3	——	13.6	——	24.1	——	16.7	——	22.5	——

[1] There were too few Chicano females to permit analysis.

largest differences noted were those between students and applicants. For example, this correlation with MOST PEOPLE between educated and uneducated White females (r = .39) was the smallest in the matrix.

The correlations (Table 49) suggest that there are far greater differences between affluent educated and deprived uneducated Whites of both sexes, than occurs among Blacks and Chicanos (e.g., for MOST PEOPLE the White males and females were r = .79 and .39, while the Blacks were .93 and .90, and the Chicanos were .92 and .81; similar comparisons for the SELF component means were .61 and .74 for male and female Whites versus .81 and .91 for Blacks, and .81 for the Male Chicano). As was expected, the major differences in INTEREST components occur between the sexes. Females of all groups had lower correlations. Male and female Whites of both student and applicant groups were quite similar, but those of the Black and Chicano student groups were quite different. Within a sex, White versus Black females were particularly notable in their difference. When these comparisons were made on an item-by-item basis (i.e., when the 96 INTEREST means for the occupations selected were correlated), the correlations between White and Black females were larger -- r = .36 and .39 for the item correlations versus .08 and .12 for the component comparisons (Table 49). Due to the compensatory treatment of many scores considered by the Birkman procedures, the sex difference observed with INTEREST scores disappeared in these final scores. Male x female correlations of the means of the 48 total scores were r = .91, .85, and .86 for student Whites, Blacks and Chicanos, and .90 and .98 for the White and Black applicants.

The higher order variables used for the graphical summary of the Birkman Method are shown in Table 51. The most striking difference is the male-female difference in D13IG. This results because males choose more occupations involving mechanical and outdoor interests than women, while women choose more that involve clerical and cultural interests. Otherwise, the values were quite similar between the six groups.

Another rigorous test of possible sexual and/or cultural differences is provided by comparison of the factor structures of the eight groups in which there were at least 100 subjects (Table 52). White female job applicants were also included even though this sample size was quite small. In all cases the first varimax factor was one consolidating much of the variance of the MOST PEOPLE variables. In other factors, several of the Birkman derived scores were the leading variables. The patterns between the groups were very similar, even though there were some differences with variables loading at moderate to low levels on the factor.

These factors show that in spite of the marked differences in sample sizes and in gender, ethnic category, and socio-economic levels, the factor structure of any one group was very similar to that of any other group. The same consolidation of common variance that is involved in factor analysis is also utilized in multiple regression and discriminate function analyses. The considerable group stability evidenced has special significance, therefore, for the use of the Birkman variables in predictive capacities, such as leadership potential, potential for success in medical school, etc.

Table 51

Higher Order Derived Variables Used in the Birkman Method for a Graphical Summary of Results (Percentile Scores Rounded)[1]

Derived Score	Means					
	Male			Female		
	White	Black	Chicano	White	Black	Chicano
INTEREST						
D12IG	48	45	46	56	49	51
D13IC	66	61	65	37	18	26
MOST PEOPLE						
D5MG	80	75	79	76	82	73
D6MG	72	77	76	81	66	70
SELF						
D5SG	82	77	70	77	82	74
D6SG	32	41	33	49	30	33
Both MOST PEOPLE & SELF						
D7	84	87	83	90	77	85
D1	62	60	49	61	58	57

[1] Austin College = White; summer student employees = Black and Chicano

Table 52

Factor Structures of Nine Groups Based on Sex, Ethnic Group and Socio-economic Levels[1]

a. Factor 1 MOST PEOPLE 1

	Males					Females			
	AC	Job Applicants			Summer	AC	Job Applicants		Summer
	W	W	B	C	B	W	W	B	B
	196	515	557	141	201	143	50	137	192
D5MG	87	92	92	92	92	82	80	90	91
MMT	81	78	81	82	82	86	87	86	75
MDO	70	74	78	66	68	75	82	85	64
MDE	72	74	74	78	76	50	62	76	71
MRE	57	68	70	76	62	55	58	81	76
MSC	64	66	77	64	65	42	51	73	73
MID	44	68	67	63	64	27	60	53	51
MIN	35	46	33	39	16	62	59	50	43
D6MG	32	30	40	31	14	70	76	52	27
SDE	44	26	24	28	16	19	29	23	18
SRE	03	21	23	18	16	31	08	13	29
M11	-24	-35	-27	-32	-07	-45	-49	-29	-16
MSO	-32	-44	-30	-23	-22	-20	-34	-09	-40
MEN	-41	-57	-52	-69	-35	-15	-27	-46	-51
D7	-30	-33	-37	-34	-15	-46	-66	-49	-26
DJ	-43	-69	-66	-73	-55	-41	-66	-57	-50
D3M	-87	-86	-86	-86	-90	-87	-88	-92	-86
D4M	-89	-89	-90	-88	-92	-89	-93	-95	-87

b. Factor 2 MOST PEOPLE 2

D6MG	88	87	77	76	84	50	None[2]	72	88
MEN	37	48	46	47	56	-07	--	37	05
MDO	32	34	32	46	52	-07	--	19	26
MMT	32	38	32	28	43	11	--	18	24
MSC	-44	-30	-17	-07	-15	-20	--	-20	-28
M11	-40	-33	-34	-30	-36	-34	--	-30	-36
D7	-49	-68	-74	-72	-47	-24	--	-47	-47

Table 52 (Continued)

	Males					Females			
	AC	Job Applicants			Summer	AC	Job Applicants		Summer
	W	W	B	C	B	W	W	B	B
c. Factor 3 SELF 1 - Neuroticism									
D5SG	80	47	76	75	84	84	67	87	86
D1	81	35	58	52	73	81	44	71	79
SMT	71	74	73	60	67	32	04	69	67
SDO	65	79	48	48	76	23	45	69	60
SDE	65	36	48	48	76	62	72	78	74
SSC	63	27	54	64	68	74	59	74	70
SPE	60	33	66	54	75	43	83	69	63
SID	54	17	26	26	54	54	19	60	63
MDE	23	15	20	23	23	30	45	19	30
D6SG	03	36	27	07	05	25	26	14	06
D2S	05	11	10	12	-10	38	13	00	04
S11	-11	-10	-13	-02	-08	-44	-02	-20	-23
SSO	-14	-14	-06	-16	-12	-54	-18	-13	-17
SEN	-49	-10	-31	-12	-39	-42	-46	-48	-51
D4S	-70	-66	-67	-52	-69	-23	-78	-74	-67
D3S	-88	-58	-86	-83	-88	-74	-83	-87	-88

	Males							Females				
	AC	Job Applicants					Summer	AC	Job Applicants			Summer
	W	W		B		C	B	W	W		B	B
		a	b3	a	b3				a	b3		
d. Factor 4 SELF 2 - Extraversion												
D6SG	88	55	58	67	52	90	91	86	70	38	86	90
D7	75	37	39	39	--	45	80	76	51	17	64	77
D5SG	-21	-41	-57	-31	-30	-49	--	--	--	-47	--	--
SDO	44	02	--	19	--	21	47	59	38	28	30	49
SMT	40	01	--	27	--	22	54	42	30	03	50	50
SSD	40	50	--	05	--	06	06	14	22	-35	06	11
SEN	46	77	--	00	71	60	35	55	09	--	18	29
SIN	--	--	74	80	--	47	31	30	33	--	53	57
S11	--	-11	--	-11	--	13	-08	-44	-83	--	-16	-11
SSC	-39	-17	-70	-48	--	-30	-18	02	-11	39	-20	-22
SID	-45	-74	--	-11	-58	-49	-31	-49	-02	82	-29	-16
SDE	-18	-37	-59	-47	-41	-57	-23	--	-05	--	-32	-34

Table 52 (Continued)

	Males					Females			
		Job Applicants					Job Applicants		
	AC W	W	B	C	Summer B	AC W	W	B	Summer B
e. Factor 5 INTEREST - Social Service									
SS	86	92	95	71	89	91	95	92	92
D8I	78	78	71	96	80	76	88	75	80
D12IG	47	41	29	77	54	41	45	24	40
Mech	-64	-68	-53	-68	-80	-51	-38	-47	-57
D10I	-40	-48	-37	-62	-66	-26	-21	-25	-31
f. Factor 6 INTEREST - Persuasiveness									
Per	87	94	97	None	92	94	87	94	95
D8I	52	56	64	(Factor 5)	46	52	42	55	50
D12IG	59	66	78	(Per 75)	66	75	60	72	72
D13IG	54	52	49		59	51	30	38	48
g. Factor 7 INTEREST - Outdoor/Clerical									
Out	87	81	80	76	73	85	85	84	87
D10I	83	70	77	67	63	88	91	89	89
D13IG	69	67	76	75	62	74	90	82	79
Mech	44	32	50	34	35	64	66	67	54
Num	-76	-79	-78	-79	-73	-80	-84	-76	-73
Clk	-80	-86	-81	-86	-84	-84	-88	-87	-74
D11I	83	-92	-89	-90	-89	-88	-91	-90	-81
h. Factor 8 INTEREST - Artistic/Literary/Musical									
Art	73	76	73	71	66	60	44	62	62
Lit	84	79	76	69	74	83	66	81	79
Mus	82	76	78	76	70	73	82	79	72
D9I	94	94	96	94	90	90	90	95	92
D12IG	61	57	49	48	45	46	52	58	51
Sci	30	47	20	34	18	04	12	35	11
Mech	-32	-36	-25	-27	-16	-20	-25	-27	-04
D13IG	-36	-38	-33	-37	-37	-34	-22	-22	-12
Num	-45	-25	-22	-27	-33	-29	-24	-35	-32
Clk	-48	-33	-42	-14	-36	-31	-26	-34	-48
D11I	-50	-32	-37	-34	-37	-32	-26	-35	-43

Table 52 (Continued)

	Males					Females			
		Job Applicants					Job Applicants		
	AC				Summer	AC			Summer
	W	W	B	C	B	W	W	B	B
i. Factor 9 INTEREST - Scientific									
Sci	61	None	90	53	82	85	65	56	83
Art	—		—	35	--	--	58	--	47

[1] See Table 1 for names of variables. A few small factor loadings of specific groups were discarded to aid in comparisons. These sets of factor loadings are highly correlated (e.g., for the MOST PEOPLE factor, AC males x females, r = .92 for the 48 pairs of factor loadings; while for the job applicant White x Black males it was .97).

[2] None means this factor did not separate from one of the other factors.

[3] Two factors were involved in these cases.

The important conclusion is that within each group studied, individuals differed widely in their patterns of response. These individual differences provide the basis for discrimination (and therefore, of prediction), and this base is not contaminated by irrelevant group differences.

CONCLUSIONS

The Birkman Method, evolved in business and industrial settings, is being tested in an academic setting at Austin College. In its second year of college-wide use, it appears to be well accepted by both faculty and student body. Substantially more than the expected number of students report the individualized narrative seminar statements to be highly accurate, and to deal with relevant needs of college students.

The psychological instruments on which the narrative seminar statements are based have satisfactory consistencies and reliabilities. Although maturation changes are evident between the freshmen and sophomore years, the changes do not grossly change the results. The selection of specific seminar narrative statements, and the occupational interest patterns were least subject to such change.

The breadth of the Birkman instruments, sampling as they do occupational interests, social perception, personality and verbal ability, enhances their validability for various purposes. The history of effective use in industry of the Birkman Method for prediction of interest patterns, success factors, leadership capabilities, and the like, suggests that it will be equally effective in similar uses in the academic setting.

The results appear to be essentially equal for the different sexes and ethnic groups. With the compensatory scoring procedures used, there is no evidence that they are culturally unfair.

The continued use of the Birkman Method at Austin College appears to be fully justified.

APPENDIX I

Rating Schedule

C/I Section_____ Name_____

I. STUDENT EVALUATION OF C/I FACULTY LEADER

A. On each line circle the one number which you feel most accurately describes the faculty leader in your C/I section, reserving the highest numbers for unusually effective performance.

	Very Accurate Description of This Leader				Inappropraite Description of This Leader
1. Is knowledgeable about the topic and helpful in analysis.	5	4	3	2	1
2. Relates well with a variety of points of view, and relates the topics to other areas of knowledge.	5	4	3	2	1
3. Is sensitive to the response of the class, encourages student participation, and welcomes questions and discussion.	5	4	3	2	1
4. Is available to and friendly toward students, is interested in students as individuals.	5	4	3	2	1
5. Is himself respected as a person and is valued for advice not directly related to the course.	5	4	3	2	1
6. Enjoys teaching, is enthusiastic about his subject, makes the course exciting and has self-confidence.	5	4	3	2	1

B. These items are not covered in the statements above and thus extend the evaluation.

	High Score			Low Score		Doesn't Apply
7. Has helped me make the transition from high school to college environment.	5	4	3	2	1	( )
8. Keeps well informed about the progress of the individual.	5	4	3	2	1	( )
9. Establishes and maintains group	5	4	3	2	1	( )

		High Score				Low Score	Doesn't Apply
10.	Is an excellent discussion leader.	5	4	3	2	1	( )
11.	Quickly grasps what a student is asking or telling him.	5	4	3	2	1	( )
12.	Maintains an appropriate degree of structure and control.	5	4	3	2	1	( )
13.	Relates group topics to student's lives and experience.	5	4	3	2	1	( )
14.	Gives interesting and stimulating assignments.	5	4	3	2	1	( )
15.	Gives writing assignments that require creative, original thinking.	5	4	3	2	1	( )

II. ADJECTIVE CHECK LIST FOR FACULTY LEADER IN C/I

These six expressions in the order listed appeared most often in the responses of the 1972 C/I freshmen to a request for adjectives characterizing what a C/I Faculty Leader should be. Circle the one number which most accurately shows your rating of each trait for importance from your perspective, and then circle the one number which most accurately shows your rating of your Faculty Leader for each trait.

			High		Medium		Low
1.	Understanding	Importance rating	5	4	3	2	1
		Rating of individual	5	4	3	2	1
2.	Friendly	Importance rating	5	4	3	2	1
		Rating of individual	5	4	3	2	1
3.	Interested in students	Importance rating	5	4	3	2	1
		Rating of individual	5	4	3	2	1
4.	Open-minded	Importance rating	5	4	3	2	1
		Rating of individual	5	4	3	2	1
5.	Able to communicate and relate with students	Importance rating	5	4	3	2	1
		Rating of individual	5	4	3	2	1
6.	Knowledgeable	Importance rating	5	4	3	2	1
		Rating of individual	5	4	3	2	1

III. ADJECTIVE CHECK LIST FOR STUDENT LEADERS IN C/I

These six expressions in the order listed appeared most often in the responses of the 1972 C/I freshmen to a request for adjectives characterizing what a C/I Student Leader should be. Circle the one number which most accurately shows your rating of each trait for importance from your perspective, and then circle the one number which most accurately shows your rating of each Student Leader in your C/I section for each trait.

			High		Medium		Low
1.	Friendly	Importance rating	5	4	3	2	1
		Rating for _____	5	4	3	2	1
		Rating for _____	5	4	3	2	1
2.	Able to communicate and relate with students	Importance rating	5	4	3	2	1
		Rating for _____	5	4	3	2	1
		Rating for _____	5	4	3	2	1
3.	Helpful	Importance rating	5	4	3	2	1
		Rating for _____	5	4	3	2	1
		Rating for _____	5	4	3	2	1
4.	Understanding	Importance rating	5	4	3	2	1
		Rating for _____	5	4	3	2	1
		Rating for _____	5	4	3	2	1
5.	Intelligent	Importance rating	5	4	3	2	1
		Rating for _____	5	4	3	2	1
		Rating for _____	5	4	3	2	1
6.	Interested in students	Importance rating	5	4	3	2	1
		Rating for _____	5	4	3	2	1
		Rating for _____	5	4	3	2	1

IV. THE BIRKMAN SEMINAR

A. Some of the concepts discussed during the Birkman Seminar are summarized below. Circle the number on the scale to the right of each statement which indicates how much you feel the seminar will aid you in achieving the following goals:

	High		Medium		Low
1. Dealing with others (either students or faculty) with tolerance and sensitivity to their situations, problems and needs.	5	4	3	2	1
2. Arranging my personal, social, and academic activities so as to meet my commitments.	5	4	3	2	1

	High		Medium		Low
3. Working successfully in groups and organizations.	5	4	3	2	1
4. Working effectively under pressure from competition while still dealing with others on a basis of mutual respect and cooperation.	5	4	3	2	1
5. Understanding how I can adjust to pressure and time limitations so I can work most effectively.	5	4	3	2	1
6. Accepting the idea that controls are needed if I am to be able to work within a structured, organizational situation.	5	4	3	2	1
7. Understanding how my personality influences the way I go about making decisions, so that I can use this to make more effective decisions.	5	4	3	2	1
8. Coping with social and personal conflicts that result from living at college.	5	4	3	2	1
9. Understanding that I can keep my tolerance and objectivity about others even when my own personal needs conflict with theirs.	5	4	3	2	1
10. Analyzing how well my decisions about course selections and career planning match my temperament and personal needs.	5	4	3	2	1
11. Adjusting to the self-scheduling required in college life.	5	4	3	2	1
12. Deciding how to balance my time between different courses and activities so as to meet my overall school responsibilities while still achieving my own personal goals.	5	4	3	2	1

B. Please circle one item in each row which you feel is most appropriate for the seminar group you were in.

Seminar

Group size	too large	OK	too small
Conduct	too much lecture	OK	too little lecture
Content	too detailed	OK	not detailed enough

Seminar

Length	too long	OK	not long enough
Your Birkman narrative	highly accurate	OK	highly inaccurate

Did the seminar expand or change your view: of yourself? YES NO
of other people? YES NO

V. COURSE EVALUATION

The officially adopted General Goals of Communication/Inquiry are listed below. Circle a number on the right to indicate the degree to which you think each of these was achieved in your section (or in your individual instance), considering the simplicity or complexity of each Goal.

General Goals for Student:	High		Medium		Low
1. To become acquainted with Austin College facilities, offices, and services.	5	4	3	2	1
2. To become acquainted with the range of elective opportunities at Austin College, in the Sherman area, and beyond.	5	4	3	2	1
3. To develop an understanding of the Austin College Honor Principle and to accept his responsibilities and privileges under the Honor System as well as his liabilities under the College Rules and the laws of federal, state, and local governments.	5	4	3	2	1
4. To register, begin classes, and establish a constructive approach to his academic work.	5	4	3	2	1
5. To participate both individually and as a member of a cooperating group in the study of at least one significant contemporary issue.	5	4	3	2	1
6. To discover and develop his personal identity, including his value system and goals, with particular attention to the relevance of the Judeo-Christian heritage.	5	4	3	2	1
7. To appreciate the mutual support between intellectual inquiry and the critical reappraisal of values in the development either of personal opinion or of social policy.	5	4	3	2	1

	High		Medium		Low
8. To participate in group activities and discussions and to use this participation as a facilitating tool for intellectual inquiry, for self-appraisal, and for the development of effective communication skills.	5	4	3	2	1
9. To develop effective communication skills in a variety of contexts and media, with particular attention to reading, discussion, and writing.	5	4	3	2	1
10. To make a tentative projection of his educational and vocational goals and how he intends to pursue them.	5	4	3	2	1

References

Anderson, T. W. An Introduction to Multivariate Statistical Analysis. New York: Wiley, 1958.

Barratt, E. S. Factor analysis of some psychometric measures of impulsivity and anxiety. Psychological Reports, 1965, 16, 547-554.

Barron, F. An ego-strength scale which predicts response to psychotherapy. J. Consult. Psychol., 17, 327-333, 1953.

Birkman, R. W. Development of a Personality Test Using Social and Self-perception Inventories. Unpublished doctoral dissertation, University of Texas, Austin, Texas, 1961.

Campbell, D.P. Strong Vocational Interest Blanks Manual, 1969 Supplement. Stanford: Stanford University Press, 1969. (National Computer Systems, Inc., Minneapolis, Minn.).

Carson, R. C. Interpretative manual to the MMPI. In J. N. Buttcher (Ed.), MMPI: Research Developments and Clinical Application. New York: McGraw-Hill, 1969.

Cattell, R.B., Eber, H.W., & Tatsuoka, M.M. Handbook: Sixteen Personality Factor Questionnaire. Champaign, Ill.: Institute for Personality and Ability Testing, 1970.

College Entrance Examination Board. A Description of the College Board Scholastic Aptitude Test. Princeton: Educational Testing Service, 1964.

Dolliver, R. H. "3.5 to 1" on the Strong Vocational Interest Blank as a pseudo-event. Journal of Counseling Psychology, 1969, 16, 172-174.

Edwards, A.L. Manual: EPPS. New York: The Psychological Corporation, 1959.

Eysenck, H.J., & Eysenck, S.B.G. Manual: Eysenck's Personality Inventory (Form A, 1969). San Diego: Educational and Industrial Testing Service, 1968.

Gough, H. G. Manual for the California Psychological Inventory. Palo Alto, Calif.: Counseling Psychologists Press, Inc., 1969.

References (Continued)

Overall, J.E. Orthogonal factors and uncorrelated factor scores. Psychological Reports, 1962, 10, 651-662.

Sadler, T.G., & Mefferd, R.B., Jr. The interaction of extroversion and neuroticism in human operant behavior. Journal of Experimental Research in Personality, 1971, 5, 278-285.

Sadler, T.G., Mefferd, R.B., Jr., & Houck, R.L. The interaction of extroversion and neuroticism in orienting response habituation. Psychophysiology, 1971, 8 (3), 312-318.

Snedecor, G.W., & Cochran, W.G. Statistical Methods. Ames, Iowa: Iowa State University Press, 1967. P. 407.

Strong, E.K., Jr. Validity of occupational choice. Educational and Psychological Measurement, 1953, 13, 110-121.

Strong, E.K., Jr., Campbell, D.P., Berdie, R.F., & Clark, K.E., The Strong Vocational Interest Blank for Men and for Women. Palo Alto, Calif., Stanford University Press, 1966.

Torgerson, W.S. Theory and Methods of Scaling. New York: Wiley, 1958.

Urlich, R.E., Stachnik, T.J., and Stanton, N.R., Student Acceptance of generalized personality interpretations. Psychological Reports, 1963, 13 (3), 831-834.

Wechsler, D. Wechsler Adult Intelligence Scale. New York: The Psychological Corporation, 1955.

Whitney, D.R. Predicting from expressed vocational choice: a review. Personnel and Guidance Journal, 1969, 48, 279-286.

Wilson, R.N., & Kaiser, H.F. A comparison of similar scales on the SVIB and the Kuder, Form DD. Journal of Counseling Psychology, 1968, 15, 468-470.

Zytowksi, D. G. Relationship of equivalent scales on three interest inventories. Personnel and Guidance Journal, 1968, 47, 44-49.

References (Continued)

Guilford, J.P. Psychometric Methods. New York: McGraw-Hill, 1954.

Harman, H.H. Modern Factor Analysis. Chicago: University of Chicago Press, 1960.

Hathaway, S.R., & McKinley, J.C. Minnesota Multiphasic Personality Inventory. New York: Psychological Corporation, 1967.

James, L.R. Criterion models and construct validity for criterion. Psychological Bulletin, 1973, 80, 75-83.

Justice, D. B., & Birkman, R.W. An effort to distinguish the violent from the non-violent. Southern Medical Journal, 1972, 65 (6), 703-708.

Kaplan, H.B., & Pokorny, A.D. Self-derogation and psychosocial adjustment. Journal of Nervous and Mental Disease, 1969, 149, 421-434.

Kuder, G.F. Kuder Occupational Interest Survey (Form DD). Chicago: Science Research Associates, Inc., 1964.

Kuder, G.F. General Manual. Chicago: Science Research Associates, Inc., 1970.

Maslow, A.H. Motivation and Personality. New York: Harper, 1954.

Mefferd, R.B., Jr. The Birkman Method for Manpower Selection, Classification, Assessment, Motivation, Counseling and Training. Birkman-Mefferd Research Foundation, Houston, Texas, 1972.

Norris, L., & Katz, M.R. The measurement of academic interests, Part II: The predictive validity of academic interest measures. Educational Testing Service Research Bulletin, 1970, 70-158.

O'Shea, A.J., & Harrington, T.F., Jr. Using the Strong Vocational Interest Blank and the Kuder Occupational Interest Survey, Form DD, with the same clients. Journal of Counseling Psychology, 1971, 18, 44-50.

Otis, A.S., & Lennon, R.T. Otis Quick-Scoring Mental Ability Tests. New York: Harcourt Brace, Inc., 1967.

FINAL REPORT ON THE VALIDATION PROGRAM OF THE BIRKMAN METHOD FOR THE AUSTIN COLLEGE PLAN

The Birkman-Mefferd Research Foundation
Houston, Texas
March, 1976

This final report is being made in the form of a Supplement to The Birkman Method -- Reliabilities and Validities for Academic Use, April 15, 1974, and to the Interim Report on the program of April 11, 1975. The table numbers (not included here) refer to the location within the major report to facilitate use of the data.

Summary

Since the April 11, 1975, Interim Report, the following specific projects relating to the validities were completed:

(1) The scales of the Maslovian-based Personal Orientation Inventory (POI) were compared with those of the Birkman Method. The major observation was that the self-actualizing person in Maslovian typology is a Stable Extravert in Eysenck's typology, and a non-anxious extravert in Cattell's typologies. The Maslovian scales are, therefore, relatable to the Birkman Scales.

(2) The experimental Neuroticism and Extraversion scales derived from the Birkman items that were reported earlier were developed in final form using a large diverse population. The scales were essentially orthogonal, had means similar to those reported by the Eysencks', and they correlated significantly with their scales.

(3) The Birkman Method scales were compared for Predictive Power of Scholastic Success in medical school with those of other scales reported in Table 18 (i.e., the Edward's Personal Perference Schedules, the Eysenck Personality Inventory, the Kaplan-Pokorny Self-Perception Scale, Barratt's Impulsivity Scale, the California Psychology Inventory, and the Minnesota Multiphasic Personality Inventory). Sixteen criteria were used, and the concurrent validities (i.e., the multiple correlation coefficients) were largest for the Birkman Battery of Scales than for any of the other scales or combinations of the scales for 13 of the 18 equations. Three of the latter were predictions of intelligence; The Birkman Communication Test was not used. Had it been used it is likely that even this intelligence criteria would have been predicted best by the Birkman Method, since the correlations were quite high regardless.

(4) The analysis of the Adjective Check List administered in 1972 was completed. The major observations were (a) confirmation of the assumption made in the Birkman Method that a person's personality is projected heavily onto Most People judgments, and that these even extend to judgments about a specific person (note the relevance of this fact to interpretation of the Leary scales); and (b) a clear-cut correspondence, based on factor analysis,

of appropriate adjectives of the forced choice pairs with the Birkman constructs.

(5) In 1975-1976, the Birkman Seminar was again presented under different conditions in the continuing effort to determine the most effective procedure for students. In this last year of the experimental use, half the students received no Seminar, while half participated in one. This was done to determine directly the interaction of the Birkman Seminar on the other aspects of the C/I itself. The format of the Seminar was different in two major aspects: (a) the Seminar was shortened to include only two of the Basic Needs rather than the complete six as attempted in the past, and (b) video tapes of a live Birkman Executive Seminar were provided to support the mentors' conduct of their Seminars.

This format was predicated by past experience that too much material was being presented students in too concentrated a time frame. As a result there was reduced long-term residual benefit. The present plan is open, and it may be (a) to have another Seminar in the sophomore year in which the other four need areas are covered, (b) to spread this coverage to two needs each year, or (c) to provide the mentors with a complete file on each of his/her students for individual use in counseling-type discussions in successive years.

Throughout the program several modes of Seminar presentation were used as were comtemplated in the Grant. At the start, trained professional Seminar directors from Birkman and Associates conducted the Seminars for all partipating students. The next year a cadre of Austin College faculty trained by Birkman and Associates conducted the Seminars. Both of these procedures received very high ratings from students and faculty. The latter procedure, however, was preferred by the faculty, and this use of faculty was continued in ensuing years. Starting with the third series, relatively untrained mentors began to be used, and in some cases even students conducted the Seminars. At this stage the ratings began to drop. With new faculty members being involved each year, there was increasing faculty concern and insecurity about the conduct per se of the Seminar. For this reason, this year Birkman and Associates suggested, and provided for experimental use, the video taped material described above as a back-up support for inexperienced mentors. It was suggested that these tapes be used strictly for this purpose, with the leader starting and stopping the tape at short intervals for interspersal of individual student-mentor interchange about individual needs. Birkman and Associates had no opportunity to assist the faculty in the use of this technique which has been successful in business and industrial usage by trained officers.

Unfortunately, the faculty and student evaluations of 1975-1976 have not been available for our analysis for this report. However, it appears clear that the models used at the outset of the program were superior to all later versions, i.e., the use of a task force or cadre of experienced seminar leaders for conducting the Birkman Seminars. An important consideration here is control of both the conduct and content of the psychological material on which the Seminar

is based. Without such control, programs which are sensitive to the "way" in which they are presented are almost certain to deteriorate in impact. It is as if a person who had never taught (or maybe never even attended) a Sunday School class were suddenly required to teach a class. The problem is compounded if he/she also happens to be a skeptic. It has been our experience that many of the "hard" scientists are skeptical if not derisive of the social sicences which they view as "soft." Further, many professors are accustomed only to delivery of lecture material with very little group interaction. Their use for conducting the Birkman Seminar is certainly not conducive of the success of a program which had been proven to be successful when it was conducted by spacially trained faculty.

A final point may be noted. The career assessment aspects of the Birkman Method are integral to it, complementing the Seminar. The Seminars' impact is that this part of the Method be considered.

(6) The Birkman Reports are in an active state of revision by Birkman and Associates with three aims -- (a) to shorten the forms, (b) to make them more relevant to academic requirements, and (c) to reduce the costs. Significant progress will be completed and validated in time for use by the 1976-1977 freshmen class.

THE PERSONAL ORIENTATION INVENTORY

The Personal Orientation Inventory (POI) was developed by Shostrom (1966) in consultation with Maslow to measure the values and behaviors of the Maslovian construct of self-actualization. In Maslow's (1954, 1962) conceptualization the self-actualizing individual is one who is functioning more fully and who lives a more enriched life than does the average person. Without inhibitions or emotional upset, he develops and uses more fully than average his unique potentialities. The POI consists of a battery of two-choice judgments relating to values and behavior. There are two basic scales of personal orientation -- inner directed support and time competence.

The first scale was intended to determine whether an individual's mode of reaction is characteristically "self" or "other" oriented. Inner (I) or self, directed persons primarily were presumed to follow internalized principals and motives, while "other" directed persons were presumed to respond to external and peer group motives.

The second scale was intended to measure the extent to which a person lives in the present as contrasted with either the past or the future. It was presumed that the person who lives in the present with full awareness, empathy, and reactivity to feelings was time competent (T_c). The time incompetent person was presumed to live in the past with his guilts, regrets, and bitternessness, and/or in the future with his idealized expectations, predictions, and anxieties.

Ten sub-scales, each of which was intended to reflect an important facet of self-actualization were also developed. These consist of five pairs of complementary synergistic scales. The scores on these paired scales were represented as the balancing of values and behavior that is critical to the achievement of self-actualization.

The first pair of sub-scales -- self-actualizing values (SAV) (a high score representing a person who holds and lives by the values of "self-actualizing"people), and Existentiality (Ex), estimating the person's flexibility in applying such expressed values to his own life. High scores of the latter were intended to reflect flexibility and good judgment in applying values, while low scores would reflect rigidity, compulsivity or dogmatism relative to the value system. The paired scores were interpreted as reflecting the general area of Valuing.

The area of Feeling was measured by the variable pair, Feeling Reactivity (Fr) or sensitivity to one's own needs and feelings, and Spontaneity (S), or the ability to express feelings in spontaneous action. Another variable pair reflected the general area of Self-Perception -- Self-Regard (Sr), or the ability to like one's self-worth as a result of one's strength as a person; Self-Acceptance (Sa) or the relative acceptance of

Table 1

Means and Standard Deviations in Parenthesis of Two Samples of Entering Freshmen in Liberal Arts Colleges

POI Scale	Sample			
	1974[1]		1970[2]	
	Male	Female	Male	Female
Time Competence	15.3(3.0)	16.5(2.7)	15.1(2.9)	16.2(2.7)
Inner Directed	77.6(9.3)	79.3(12.4)	75.6(8.9)	76.0(9.7)
Self-Actualizing Value	20.0(2.7)	24.7(3.4)	18.8(2.6)	19.1(3.4)
Existentiality	17.8(3.9)	18.8(3.6)	16.7(4.4)	17.2(4.2)
Feeling Reactivity	14.4(3.0)	15.3(2.9)	13.8(2.9)	13.7(2.8)
Spontaneity	11.6(2.5)	11.8(2.3)	9.7(2.2)	9.6(2.4)
Self-Regard	11.8(2.1)	11.6(2.2)	11.5(2.2)	11.5(2.3)
Self-Acceptance	13.3(3.2)	14.4(2.9)	13.7(3.1)	14.3(2.8)
Nature-of-Man Constructive	11.6(1.9)	12.1(1.7)	11.6(2.0)	11.9(1.9)
Synergy	6.7(1.3)	7.1(1.2)	6.3(1.4)	6.6(1.3)
Acceptance of Aggression	15.1(2.8)	15.7(2.8)	15.1(3.0)	15.0(2.9)
Capacity for Intimate Contact	15.8(3.3)	17.0(3.0)	15.6(3.4)	15.6(3.3)
Sample Size	198	114	1,254	792

[1] Texas College

[2] Midwest College (Shostrom, 1966).

Table 2

Intercorrelations of POI Scales in Two Samples of Liberal Arts College Freshmen.

POI Scales		Tc		I		SAV		Ex		Fr		S		Sr		Sa		Nc		Sy		A		C	
		1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Time Competent	Tc	X	X																						
Inner Directed	I	36	49	X	X																				
Self-Actualizing Value	SAV	18	26	46	54	X	X																		
Existentiality	Ex	41	31	48	70	19	21	X	X																
Feeling Reactivity	Fr	21	20	51	[illegible]	18	23	32	32	X	X														
Spontaneity	S	32	38	47	71	23	45	32	42	47	44	X	X												
Self-Regard	Sr	38	44	38	62	05	56	07	32	24	25	35	44	X	X										
Self-Acceptance	Sa	46	43	50	63	10	--	51	57	30	21	37	40	20	21	X	X								
Nature of Man	Nc	18	19	35	37	10	41	20	27	18	--	27	17	17	32	12	24	X	X						
Synergy	Sy	26	29	21	41	19	58	39	36	13	--	20	30	07	26	14	22	41	53	X	X				
Acceptance of Aggression	A	19	17	39	61	24	32	26	39	64	64	46	47	30	28	25	32	10	--	27	28	X	X		
Capacity for Intimate Contact	C	32	25	45	55	20	15	57	48	55	53	41	30	22	23	38	30	09	--	23	14	44	44	X	X

[1] Sample 1: 198 male and 114 female entering freshmen in a Liberal Arts college in Texas
Sample 2: 138 entering college freshmen (Knapp, 1965)

Table 3

Significant Correlations Between Basic Birkman Scales and POI Scales in a Group of 312 Entering Liberal Arts College Freshmen[1].

Birkman Scales	POI Scales											
	Tc	I	SAV	Ex	Fr	S	Sr	Sa	Nc	Sy	A	C
MOST PEOPLE												
IN	-18								-20	-10		
SC												
DO	-14								-28	-15		
MT	-22								-25	-07		
II												
SO												
PE	-17						-12	-18				
EN	12											
ID	-17											
DE												

Birkman Scales	POI Scales											
	Tc	I	SAV	Ex	Fr	S	Sr	Sa	Nc	Sy	A	C
SELF												
IN			05	20								
SC	-30	-20				-30	-40	-27			-22	-21
DO	-25				29	08					26	11
MT	-26						-17	-03				
II			-02	-35			21	13				
SO					13	30	25	09			22	05
PE	-31	-19					-23	-20				
EN	26				10	25	33	03	18	03	17	08
ID	-30	-23			-11	-30	-39	-14	-17	-08	-18	-12
DE	-28						-25	-12				
Neurotics[2]	-37						-31	-18				
Extraverts[2]		19			23	34	31	14	17	08	30	14

[1] 198 Male and 114 Female entering college freshmen, Texas, 1974; non-significant correlations are underlined.

[2] Based on the Birkman Scales.

one's self regardless of his deficiencies.

The fourth area provided with scales is Awareness -- nature of man, Constructive (Nc) or the view of man as essentially good regardless of his tendencies or relapses into evil, selfishness, and sensuality, and Synergy (Sy), or the ability to see the opposities of life as related rather than an antagonistic. Finally, the area of Interpersonal Sensitivity is estimated by means of a pair of sub-scales -- acceptance of aggression (A) or the ability to acknowledge and accept anger or aggression within one's self as natural, and capacity for Intimate Contact (C), or the ability to develop intimate relations with others without exceptions, expectations or obligations. The self-actualizing person has high scores on all the above scales, and accordingly, the intercorrelations tend to be positive.

The means and standard deviations of the 1974 Austin College Freshmen are compared with those of a Midwest College presented by Shostrom (1966) (Table 1). Except for the slightly higher scores in Valuing and Feeling of the Austin College students, the means for the two groups were very similar. Shostrom (1966) presented a correlation matrix for 138 entering college freshmen (Knapp, 1965) (Table 2). Although the signs were all positive in both cases, there were differences between these two samples that were only partially explainable by the differences in sample sizes. The correlations relating to Innter Directed and Self-Actualizing values tended to be lower in the Austin College freshmen than in the Knapp sample of a decade earlier.

The two basic scales Tc and I were positively correlated at a moderately high level for both samples: r = .36 and .49, for Austin College and the Knapp sample, respectively. This indicates that the scales are far from orthogonal. The correlations between the value-behavior pairs of variables were all positive and significant. However, they were quite small for the Valuing and Self-Perception areas.

The scales of the Birkman and the POI instruments are compared in Table 3. Generally, the correlations were low. Time competency was significantly correlated with most of the Birkman variables including a negative correlation with Neuroticism. The "Inner" scale, however, was correlated only with Self components and these were negative -- Self-consciousness, Restlessness, and Indecisiveness, but it was positively correlated with Extraversion. The largest number of correlations among the POI sub-scales and the Birkman Self components was with Self-Acceptance (Sa) where all Birkman components but Individuality and Dominance had significant correlations.

The pattern of the correlations suggested that Neuroticism and Extraversion might be the basic dimensions involved in the entire POI system of scales. This possibility was examined with three samples (Table 4). One

Table 4

Relationships of Neuroticism and Extraversion and Personal Orientation Inventory Scale Scores[1]

POI Scale	Neuroticism			Extraversion		
	1	2	3	1	2	3
TC	-57	-34	-14	11	13	25
I	-35	-16	-10	33	20	28
SAV	-27	04	-16	18	12	19
Ex	-11	-04	-13	30	01	13
Fr	-08	06	-02	30	23	27
S	-34	-12	-10	39	35	23
Sr	-52	-30	-29	36	31	38
Sa	-17	-19	-15	10	14	17
Nc	-21	-06	01	-05	17	10
Sy	-25	04	01	06	08	11
A	-09	01	-01	37	31	31
C	-24	-08	01	26	14	22

[1]Sample 1: High and low neurotics, N = 94,(Shostrom, 1966).
Sample 2: 198 male and 114 female entering college freshman, Texas, 1974.
Sample 3: 47 male and female adults, Texas, 1974

Sample 1 was based on the EPI (Eysenck & Eysenck, 1968) scales, while Samples 2 and 3 were based on the Birkman Scales.

comparative group was taken from data presented by Shostrom (1966) which contrasted high and low neurotics; second, was the Austin College freshmen; and the third was a sample of 47 Texas adults of assorted age, sex, and education. While the magnitudes of the coefficients varied, the directionality of all scales was clear -- they correlated negatively with neuroticism and positively with extraversion.

Thus, the Maslovian construct of a self-actualizing person is, in the Eysenck typology, that of the stable extravert. According to this view, the most fulfilled person with the most rewarding life is one who has the values and customary behaviors exhibited by stable extraverts. Following the Maslovian logic, all people should strive to achieve the standard set by the approximately 25 % of the population who have the "happy" combination of low neuroticism (c.f., drive, anxiety) and high extraversion (c.f., sociability, impulsivity). By definition, the high drive intraverts, the high drive extraverts and the low drive intraverts are not members of this hedonistic province of the fulfilled self-actualizing low drive extraverts.

NEUROTICISM AND EXTRAVERSION

The experimental scales for these two personality dimensions that were reported in the initial validity report were formalized and validated as follows: Scales for these two dimensions of individual differences were developed directly from the 125 items of the Birkman Self Questionnaire. The means, standard deviations, correlations and factor structures of these 125 items were compared with those of the Eysenck Personality Inventory (EPI) (Eysenck & Eysenck, 1968). The subject samples used for this purpose were 552 medical school applicants and 119 medical school students (Table 18); 100 nursing students, 57 physicians' aide students, 96 policemen from a suburban police department, 352 insurance salesmen, 212 psychiatric patients (76 chronic simple schizophrenics, 58 chronic paranoid schizophrenics, and 78 chronic alcoholics of a major metropolitan hospital) and 90 chronic, long-term or repeating drug addicts (of a metropolitan drug addiction treatment center), 100 adult prison inmates, 57 juvenile institutional inmates, 37 professional psychologists, and 127 assorted adults who had completed both forms for one reason or another. As with the EPI, 24 items were selected from the 125 Birkman Self items which had the highest positive correlations and the closest item means and standard deviations with the relevant EPI scale and which yielded as nearly the same total score for each group as did the EPI. One further constraint was that each item was not correlated significantly with the opposing scale so as to increase their orthogonality. A major difference between the two sets of scores is that the items of the Birkman scales are scattered among other items. Some of the items are similar in the two questionnaires while others are unalike.

The means and standard deviations of the EPI and Birkman scales, respectively, for the 1894 subjects were: Extraversion (E), 11.6 (3.46) vs. 12.4 (3.37), Neuroticism (N), 9.9 (4.54) vs. 10.1 (4.99). The two extra-

version scores correlated r = .59, and the two neuroticism scores, r = .70. The respective correlations between E and N were r = -.03 vs. -.08. The Birkman E correlated very highly with Cattell's E (Factor 1), but the N scales (Cattell's Factor V) were less correlated (see Table 33). One reason for this latter effect is that the Birkman score crosses Cattell's Anxiety Factor II and Neuroticism Factor V scales (see Table 33). The patterns of correlations of the EPI and Birkman scales with the scales of other instruments were consistent and similar (see Tables 30, 32, 33, and 43). The correlations with the pertinent Birkman graphical scales (see Table 1) and the two EPI and Birkman scales, respectively, were: D5SG, for N r = .65 vs. .77 and for E, r = -.33 vs. -.30; D6SG, for N, r = -.05 vs. -.22 and for E, r = .33 vs. .38. A difference of import is that the EPI E scale correlates more highly with Barratt's Impulsivity scale than does the Birkman E scales (r = .49 vs. .33), and less with Birkman's Sociability scale (r = .52 vs. .71). The N scales are very similar (e.g., the respective correlations of the EPI and Birkman N's with the Barron Ego Strength Scale were r = -.57 vs. -.50.

Thus, while the Birkman E and N scales are not identical to those of Eysenck and Cattell, they are very similar. All three scales appear to be measures of basic personality dimensions.

PREDICTIVE POWER OF VARIOUS PERSONALITY MEASURES

Another study involving The Birkman Method produced results relevant to the Austin College study. This study involved personality variables for the selection of medical students at a major private medical school. In it the Birkman Method was compared with a number of other questionnaires and scales. This included the Edward's Personal Preference Schedule, the Eysenck Personality Inventory, the Kaplan-Pokorny Self-Perception Scale, Barratt's Impulsivity Scale, five scales from the California Psychological Inventory, and three scales from the MMPI (see Table 18). The basic results were reported in the earlier Validity Report. Since then the scores from the various instruments were examined for relative power to predict success in medical school. The sample of 119 junior and senior medical students had a number of performance criteria available including the verbal, quantitative, general information, and science scores of the Medical College Admission Test, the scores of the Medical Board examinations on the six basic sciences and in the seven clinical tests, and their class rank entering the senior year. All but the last of these criteria were factored and rotated as outlined in the earlier report. Five factors consolidate significant pools of common variance. These were selected for use as performance criteria, and orthogonal factor scores were developed for each of the five factors for the 119 students. Class rank was used as a sixth criterion. The students were divided into equal thirds based on the distribution of scores. The three groups were designated as Good, Average, and Poor relative to the total 119 students. Three separate multiple regression equations were developed for each of the seven criteria -- one for Good vs. Average and Poor, another for Poor vs. Average and Good, and a third for Average vs. Good and Poor (i.e.,

Table 5

Comparison of Concurrent Validities for Predicting Six Different Criteria of Performance in Medical School (N = 119, Junior and Senior Volunteer Medical Students).

Criteria	Perf.	Complete Birkman* (D&N) (M&S)	Complete Birkman* Alone	30 Birkman Components + 16EPPS KSP ES 5CPI 3Eysenck 3MMPI Barratt	30 Birkman Components Alone	18 Derived Birkman Scores* Alone	Non-Birkman Variables KPS 3Eysenck Barratt 3MMPI 5CPI 16EPPS**	Non-Birkman Variables LPPS Alone
No. Var.		52	48	46	37	37	30	18	29	16
PS1 Med.	G	60	56	59	50	49	41	32	53	39
Surg.	A	67	61	61	52	54	49	31	38	25
Path.	P	56	51	56	49	54	42	37	47	37
PS2 Psych	G	72	68	57	59	52	51	50	48	20
P.H.	A	60	66	56	59	54	48	26	48	26
	P	70	70	67	66	67	60	51	58	33
$PS\frac{1}{5}$ Biochem.	G	55	55	61	65	54	52	37	51	35
Phys.	A	61	55	55	48	45	40	35	47	38
	P	64	63	62	57	58	47	42	43	36
$PS\frac{2}{4}$ Intell.	G	56	51	52	58	63	40	42	49	32
	A	43	40	47	49	49	33	38	48	27
	P	51	51	49	58	55	45	32	47	27
$PS\frac{3}{5}$ Sci.	G	64	60	55	57	60	52	35	38	21
	A	70	62	59	57	62	46	18	54	44
	P	70	64	68	62	67	57	38	59	50
Class Rank	G	50	68	65	49	52	46	36	49	45
	A	66	65	60	58	56	50	33	53	33
	P	56	69	59	46	42	39	39	53	40

Table 5 (cont.)

* Proprietary and confidential scores; scoring done by Birkman and Associates.

** Cards 173 and 273; E&N - M&S = Birkman Extraversion-Neuroticism for Social and Self-Perception; KSP= Kaplan and Pokorny Self-Perception; ES = Barron's Ego Strength.

non-average). Such equations were developed for the complete Birkman battery alone, with and without the extraversion and neuroticism scores for Self and Most People reported here; for the 30 basic components of the Birkman Method plus other scales and components in variety of combinations, and for the non-Birkman variables. The multiple correlation coefficients are reported in Table 5. These represent concurrent predictive validities for samples of the same size. The same parameters for entry and exclusion of variables, for total variance extracted and so on were used throughout in the step-up-step-down regression procedures utilized. Only the number of variables varied between equations.

The addition of the Birkman scales increased the multiple correlation of almost any other combination of scales. The battery of Birkman variables results in the highest correlations in 13 of the 18 equations. The major exception was the intelligence factor where the addition of other scale scores to the basic Birkman components increased predictability. Significantly, the Birkman Communication Test (verbal ability) was not included in the computations.

The results suggest that the comprehensive nature of the Birkman Questionnaire serves to increase the power as a counseling device relative to the others tested in this study. These other instruments were all selected for inclusion in the study due to positive reports in the literature as to their utility for selection of medical students (see e.g., Roessler, Collins, & Mefferd, 1975).

THE ADJECTIVE CHECK LIST

A list of 73 pairs of adjectives describing approximately opposing behaviors, moods, feelings, attitudes, and the like were developed directly from the narrative statements of the six topical areas treated in the Birkman Seminar. An effort was made to equate each pair for social desirability. All students in the 1972-1973 Freshmen class completed two of four versions of this list:

(1a) (N = 169) Choose the adjective of a pair that you feel best describes you, and

(1b) do the same relative to some specific student by name whom you know well; and

(2a) (N=163) make the same forced choice selections relative to Most Students; and

(2b) select single adjectives from a randomized list of 146 (2 x 73 of the paired adjectives) adjectives all those which you feel describe you.

The purpose of this study was to begin the tortuous process of establishing construct validity of the Birkman constructs including the basic components. This forms part of the nomological network involving multiple instruments and multiple constructs. Concurrently, a number of assumptions basic to the Birkman Method are examined; the first being the assumption that

Table 6

Frequency Distribution of Degree of Concordance Between a Self and a Peer Inventory on 73 Pairs of Adjectives in a Forced Choice Model.

Percentage Agreement*	Frequency
0 - 34	0
35 - 39	1 [1]
40 - 44	1
45 - 49	7
50 - 54	7
55 - 59	13
60 - 64	13
65 - 69	14
70 - 74	12
75 - 79	3
80 - 84	2
	Total 73

* of 73 pairs of adjectives. 25% = chance

[1] Actually 39 percent.

Table 7

Comparison of Adjectives on Which There Was Least and Greatest Agreement in Self and Peer Inventories

Least Agreement		Most Agreement	
40 - 44%	Extravert - Intravert	84%	Negative - Positive
	Insistent - Compliant		Approachable - Aloof
	Fast - Slow Decision Maker		Careful - Careless
	Manager - Non-manager		Gloomy - Cheerful
	Affable - Reserved		Active - Passive
	Over - Understater		Unemotional - Sentimental
	Proud - Humble		Fluent - Tongue-tied
	Possessive - Self-denying		Alert - Hesitant
			Innovative - Uncreative
50 - 54%	Unpredictable - Predictable		Personal - Impersonal
	Uninhibited - Inhibited		Independent - Conforming
	Outward - Inward		Good - Poor Loser
	Objective - Subjective		Pessimistic - Optimistic
	Secretive - Candid		Skeptical - Trustful
	Self-assured - Self-confident		Formal - Informal
	Worrier - Non-worrier		Strict - Tolerant
		77%	Orderly - Casual

the Self ratings almost universally used in personality inventories are clouded by problems of self-delusion, self-denial, self-attribution, social-desirability and the like. A corollary assumption is that much of this cloud is not present when a person is asked to inventory Most People, since there is no reason not to answer forthrightly. The primary assumption presumes that not only are Most People inventories not subject to some of the paramount limitations of Self Inventories, but that people project themselves upon Most People -- that the clearest and most accurate reflection of a person's true values, attitudes, beliefs, and behavior are in the answers relative to Most People.

While this complex analysis is incomplete, the following questions have been addressed.

(1). How much do peer-ratings reflect a person's view of Self?

To test this question, the students rated by peers were matched with their own Self ratings. Only six (6) students were not rated by at least one other student (N = 163). The few students rated by more than one other peer were examined before the analysis and a consensus was established as if only one peer were involved.

Next, the 73 adjective pairs were compared for concordance. Note that the pertinent chance concordance of two independent choices from a pool of two possibilities is 25%. Concordances above 25%, therefore, indicate agreement between a person and a peer whom he did not know was inventorying him.

As is shown in Table 6 , the lowest agreement was one case of 39%. The mean agreement was 59.9% -- twice the level expected by chance alone. Thus, there was highly significant ($p \leq .01$) agreement between the Self and Peer inventories. In Table 7 the low agreement adjective-pairs are contrasted with the high-agreement ones. The difference is clearly evident -- low agreement adjectives involve inner values, covert attributes, poorly understood constructs, and pairs of unequal social desirability.

With these considerations in mind, a subset of 40 high agreement adjective pairs was established in which additionally, each adjective was selected about equally often by the Self-Peer pair (i.e., never below 30% of the time for the least popular adjective of a pair). This list was used for the validation considerations to be discussed.

(2). What responses do different formats for Self-Inventory elicit?

Half the students were presented with the 73 adjective-pairs in a forced choice selection of the adjective of each pair which most nearly describes themselves. The other half received the same list of 146 adjectives in a randomized list from which they were to select

any adjectives which they felt described themselves. The first adjective of a pair was scored 1, which the second adjective was scored 7. This scoring was retained for the random list.

The general effect was a reduction in the total number of adjectives selected in the free-choice conditions. The means for the first and second adjective of the pairs were 49.2/47.2 percentages as compared with 27.9/29/6 percentages in the free choice. In the free choice in some cases, neither adjectives of the paired-adjective was selected -- 3.0%. On the other hand, both adjectives were selected in 67 percent of the time. In the construction of the 73 paired-adjective list it was assumed that the two adjectives represented the opposite poles of a single dimension. If this were really correct, there should have been no double-selections. However, a selection of both adjectives from a random list may also represent other factors at work, such as careless test-taking.

The correlations between the two techniques for self-inventory were quite high in all cases: (1) the adjective of the paired-adjectives and the same adjectives in the random list were correlated $r = .90$ for the first, and $r = .89$ for the second adjective. Thus, it would appear that either technique yields essentially the same results.

(3). Do subjects tend to rate another specific peer as "MOST" people, or as a unique person?

Half the students were asked to pick another student by name whom they knew well and to select the adjectives from the 73 pairs that best described him or her. The adjective list was the same as was used for the forced-choice self inventory, and for the "Most" students inventory made by the other half of the students. The means for the pair for the "other" student and for "most" students were 48.5/47/1 and 49.7/47/8, for the two adjectives of each pair, respectively. The correlations between the first and second adjectives, respectively, for the "other" and "most" selection were $r = .77$ and .78. This high correlation still was far below that obtained for the Self inventories by two different techniques: 81 and 79 percent of the variance in common for the Self inventories vs. 59 and 60 percent for the "other-most" inventories.

This result is about the same as the relationship between "self" and "most" student inventories -- $r = .79$ for the first adjective of each pair and $r = .75$ for the second adjective. However, these same correlations increased to $r = .91$ and .91 for "Self" vs. "Other" for the first and second adjective of each pair, respectively.

Both of these high correlations for "other" and "most" demonstrate the high degree of projection existant in all such inventories.

There is a strong tendency to rate other people, whether specific or general, in terms of our evaluations of ourselves.

(4). Do the adjectives relate statistically with the appropriate Birkman constructs?

The forced-choice pairs of adjectives for Self and for Most People were factored separately, along with the Birkman components (recall that these two samples were of different students). The same factoring techniques and procedures discussed in the preliminary validation report were used. The adjectives were coded 1 for choice of the first adjective, 2 for choice of the second. The results are presented in different formats for Self and Most students due to the greater complexity of the Self results. The Most students' data were readily summarized in two factors as shown in Table 8 . However, there was much more duplication of specific adjectives with the Self results. Therefore, the adjectives that were significantly correlated with a given Birkman Self component are shown in Table 9 by factors. Actually, the two major pools of variance of the latter were due to the degree of peer-self agreement and to the approximately equal distribution of the selections discussed in section (3) above.

Regardless of the differences between the two reports -- Self and Most students -- there is clear relationship between the Birkman components and the results of a different external procedure. This is the case for both Self and Most Students' data.

Table 8

Construct Validity of the Birkman MOST People Components.[1]

Components Factor Loadings		Most Students Adjectives		Components Factor Loadings		Most Students Adjectives	
			Factor 1				
MIN	74			MII	-54		
SIN	60			SII	-66		
MMT	62						
		82	Close-fisted			-81	Careful
		82	Poor-loser			-75	Critical
		74	Tricky			-65	Foresighted
		56	Overstator			-65	Strict
MDO	54					-64	Skeptical
		71	Competitive			-55	Objective
		43	Thick-skinned			-54	Independent
MPE	48						
		48	Nervous				
MID	42						
MDE	35						
		81	Gloomy				
		79	Pessimistic				
		74	Envious				
		73	Negative				
		66	Disorganized				
		53	Hard-to-know				
MSO	-27						
SSO	-39						
		-75	Modest				
		-74	Personal				
		-74	Intuitive				
		-70	Innovative				
		-67	Approachable				
		-65	Lightminded				
		-58	Imaginative				
		-57	Unemotional				
		-52	Confident				
		-46	Sophisticated				
MEN	-52						
		-72	Prompt				
		-57	Decisive				
		-52	Fast				
		-49	Fluent				
		-48	Alert				
		-47	Active				

Table 8 (cont.)

Components Factor Loadings		Most Students Adjectives	
	Factor 2		
MID	41		
		86	Submissive
		74	Cautious
		71	Hesitant
		70	Follower
		69	Passive
		68	Conforming
		65	Obeying
		60	Slow Decision Maker
		55	Insecure
		53	Ambivalent
		52	Susceptible
		52	Slow
		46	Non-manager
		45	Uncreative
MSC	38		
		90	Shy
		87	Close mouthed
		85	Inward
		84	Quiet
		79	Inhibited
		74	Introvert
		70	Self-conscious
		70	Subtle
		68	Undemonstrative
		58	Tongue-tied
		55	Naive
		52	Susceptible
		48	Thin-skinned
MLN	-32		
		-64	Methodical
		-58	Non-worrier
		-50	Relaxed
		-50	Persevering
MSO	-57		
		-65	Open
		-54	Candid
		-50	Easy-to-know

[1] Varimax factor structure of adjectives selected for MOST students (forced-choice, N=159) and of the Birkman basic components. Values are factor loadings with the leading decimal omitted. The loadings for a single factor are presented with the components to the left and the adjectives to the right for clarity purposes.

Table 9

Construct Validity of the Birkman Self Components[1]

SC	Re	En	II	MT
		Factor 2		
		(Self-Peer agreement and equal distribution)		
reserved	* excitable	* confident	sophisticated	* simple
submissive	* envious	innovative	* insistent	
shy	* nervous	objective	systematic	
* insecure	* unpredictable	* decisive	planner	
* obeying		ungrudging	realistic	
subtle		* self-assured		
undemonstrative		fast decision maker		
introvert		* fast		
compliant		* leader		
uncreative		relaxed		
follower		* uninhibited		
close-mouthed		* proud		
subjective				
secretive				
* simple				
* self-conscious				
quiet				
inhibited				
* naive				

Table [9] (cont.)

SC	Re	En	II	MT
Factor 1				
(Self-Peer disagreement and unequal distribution)				
* hesitant	careless	* alert	careful	* alert
* tongue-tied	* changeable	foresighted	persevering	* covert
conforming	* disorganized	* fluent	organized	close-fisted
* methodological	* tongue-tied	* cheerful	formal	* tongue-tied
* susceptible	* hard-driving	imaginative	* fluent	* poor-loser
negative	* sentimental	invulnerable	hard-driving	impersonal
inward	* worrier	positive	serious minded	* possessive
solitary		thick-skinned	order	
* worrier		unsentimental	straightforward	
restrained		* non-worrier	prompt	
		* optimistic		
		* open		

[1] Significant positive correlations between the Self inventory of the Birkman components and 73 adjectives pairs in a forced-choice procedure that apply to Self. Adjectives with asterisks had correlation coefficients significant at the $p \leq .01$ level; the others, at the $p \leq .05$ level.

References

Knapp, R. R. Relationship of a measure of self-actualization to neuroticism and extraversion. Psychological Reports, 1967, 21, 422-424.

Roessler, R., Collins, Forrest, & Mefferd, R. B., Jr. Sex similarities in successful medical school applicants. Journal of the American Medical Women's Association, 1975, 30, 254-265.

Shostrom, E. L. Manual for the Personal Orientation Inventory. San Diego, Calif.: Educational and Industrial Testing Service, 1966.

APPENDIX B

THE AUSTIN COLLEGE TOTAL INSTITUTIONAL PROJECT

CHANGING TASKS AND ROLES IN HIGHER EDUCATION

June 1972-November 1975

National Science Foundation National Endowment for the Humanities

A Progress Report on The Birkman Method and Seminar
April, 1974

The Birkman Method and Seminar is a personality profile and procedure that has been highly productive of desired results in personal adjustment and effective job assignment in contexts of business management. To a lesser extent, The Birkman Method has been used with an impression of generally positive effects in other contexts where similar results were sought. Beginning some four years ago Austin College has experimented with the use of this instrument with student groups, student-faculty planning groups, departmental faculty groups, and administrative groups--and, in negotiations with the National Science Foundation, arranged for a group of their program officials to participate in The Birkman Seminar, again with generally positive effects.

In fact, part of the three-year grant from The National Science Foundation is funding a complex experiment exploring the possibilities for the adaptation of this instrument and method for use with college freshmen and dealing more broadly with attitudinal change essential in self-renewal efforts.

During the first half of the three-year Project as data have been gathered and processed and as ideas for adaptation and use have been explored and refined, attention has become focused on the interrelated subjects of the two attached working-papers, one dealing with the ideas of the Project leadership for the appropriate revision and use of such an instrument and procedure and the other dealing with a description and analysis of the instrument from the perspective of the Research Foundation contracted to conduct the analysis.

These drafts of studies currently in process are presented to the Advisory Panel as a means of soliciting advice and guidance.

Preliminary Plans for the Educational Context of the Birkman Seminar and Method

--The attached working-paper prepared by the Project Office

Preliminary Technical Report 1: The Birkman Method; Reliabilities and Validities for Academic Use

--Roy B. Mefferd, Jr., Timothy G. Sadler and Roger W. Birkman of the Birkman-Mefferd Research Foundation

PRELIMINARY PLANS FOR THE EDUCATIONAL CONTEXT
OF THE BIRKMAN SEMINAR AND METHOD

A. General Rationale

It seems quite obvious that the programs Colleges develop for entering freshmen should attempt to include provisions for helping them to learn better to understand themselves and others, to relate with others of different dispositions in positive and constructive ways, and to improve the grounds on which they project their college and post-college careers. Less obvious perhaps--certainly less apparent in programs for entering freshmen--is their need for developing skills and supportive attitudes for learning effectively in groups, usually in situations that call for sharing the responsibilities of leadership and mediation. For some time, Austin College has tried various approaches having an emphasis on the development of a positive self-image that is also reasonably realistic. One of the approaches that has been responded to most positively in a variety of kinds of groups is The Birkman Method, developed for use with business management. The emphasis in this procedure on the use of an interactive, small-group Seminar to facilitate self-awareness and self-acceptance has been, from the beginning of the Austin College experience with it, a major aspect of its appeal. Experimentation, technical analysis, and a wide-ranging consideration of alternatives for use have led to the present--still tentative--projection of a way to adapt this approach and to integrate it effectively in a program to meet some of the identified needs of entering freshmen.

The leadership of the Austin College Total Institutional Project believes that it will be possible to develop an educational context in which a modification

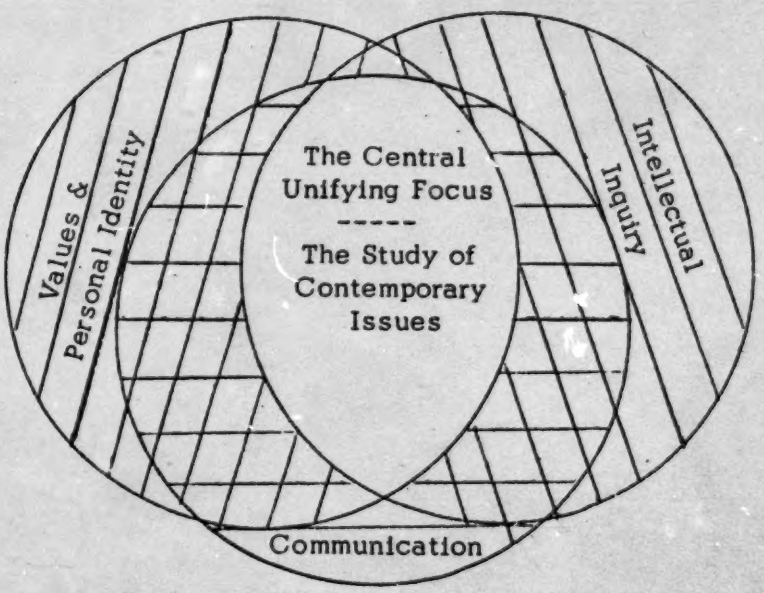
of the Birkman methodology can be a major focus of institutional efforts to help beginning freshmen in the ways indicated. From before the beginning of the Project, it has been anticipated that some kinds of adaptation to the needs of an academic setting would be necessary. But ideas for this adaptation and for the context in which it might be used have been developing as a result of various experiences with the Seminar, additional data about the instrument and the character of its degree of validity and reliability, and a general growth of understanding about the scope of learning that might be included in the context of its use. In general, the result of this development of ideas about the adaptation and use of the Birkman Seminar and Method has reinforced the central rationale of the Communication/Inquiry program in which we are presently using it; that is, that the program can capitalize on the interdependence of various aspects of social and intellectual development by accepting and utilizing the complexity of the task and managing the parts in ways that make them mutually supportive. This rationale, which typifies the integrative strategy of the Total Institutional Project, is expressed with special focus in the General Syllabus for Communication/Inquiry 11 under the heading "The Concept":

> The Communication/Inquiry course aids the entering college student in understanding himself, others, his relationships with others, and the methods and styles of intellectual inquiry and communication. This increased understanding can help the student channel his energies in such a way that he can use his college years in the manner which will be most beneficial for his own individual life. The primary unifying theme and motivating influence is the study of one or more contemporary issues. Today's freshmen are interested in these issues and are aware of their importance. They are eager to know the facts. Moreover, they see the relevance of personal and social values and the need for effective communication about the issues.

Therefore, to provide a better basis both for this course and for the student's entire life of learning, three elements are integrated within the course: (1) the student's understanding of himself, including his continually evolving values, educational plans, and personal goals; (2) the principles and methods of sound and mature intellectual inquiry; and (3) the development of skill and understanding in the areas of communication and communication media.

This three part approach makes the Communication/Inquiry course much more than the usual course concerned with a specific body of knowledge. Indeed, it is a critical phase of preparation for a life of continuous learning in general and, more specifically, for the Austin College program.

The relationship and integration of these aspects within the Communication/Inquiry course can be described by the following diagram:



The three circles represent the three educational emphases. Each of the three aspects is a fundamental concern in any individual's education, and each could be approached in separate courses and programs. Indeed, in the past each has been presented in a separate manner at Austin College.

However, because each emphasis provides mutual reinforcement for the others, the educational process can be more meaningful when these

factors are combined in one course. The overlapping areas show the relationships among the three emphases. The student needs a firm picture of his values and personal identity in order to pursue intellectual matters with vigor and enthusiasm, and the knowledge which comes with intellectual pursuits, including the study of a contemporary issue, provides the rational basis for the formation of personal values and identity. Likewise, intellectual matters can neither be acquired nor passed along to others effectively without an accurate understanding of communication used in the broadest sense. This same understanding of communication is fundamental for the student's development of his whole person. Thus, each of the three reinforces the other two, and the unshaded central overlapping area symbolizes this mutual support.

The study of a contemporary issue will have to deal with the values which underlie the issue. Discussion by participants in the course will reveal the different positions in regard to these values. Such a process will obviously aid the individual student in the development of his own values and personal identity. But recognizing these differences can also be useful as an approach to the subtle biases of media and style in various kinds of communications. Both considerations can aid in continually refreshing one's awareness that the same facts look different from different perspectives.

Another example pertains to the formidable task which faces today's entering student because of the tremendous amount of knowledge as well as the complexity of society. The student needs the most effective tools of educational inquiry--modern and traditional--at his disposal. In the present era, the computer is one of the most efficient tools for information analysis. Hence, the Communication/Inquiry course begins to develop the student's ability to use the computer to aid his analysis and use of information.

Even such a purely academic task as the compilation of a bibliography exemplifies the value of incorporating the three aspects in one course. A bibliography is a method of communication, and it is easily identified with a preliminary step in intellectual inquiry. Moreover, it also represents a value judgment concerning the importance of checking facts and considering all points of view. Until the student realizes that the quality of his work reflects a value judgment of this kind, he does not really understand inquiry and communication.

The heart of the Communication/Inquiry course, therefore, involves the thorough integration of all three elements--values and personal identity, intellectual inquiry, and communication--in an encounter with contemporary issues. The defining and refining of his self-concept will clarify the

student's direction in life, which in turn will help him make his educational plans more suitable for his goals. With educational activities fitted more closely to his individual needs and concerns, the student will find clearer relevance in these activities. And with increased relevance, a new purposefulness will enter his academic pursuits.

The holistic and synergistic strategy of the Austin College Total Institutional Project and of the Communication/Inquiry course as just described calls for the use of any such instrument and process such as the Birkman Seminar in ways consistent with this approach. Our purposes are thus broader than those usually found in other contexts.

We, too, are concerned with both cognitive and affective learning, with recognition and acceptance of oneself and of others having significantly different personality traits. Like others who have used the Birkman materials, we are interested in the interactive group relationships within the Seminar. And, of course, we are very greatly concerned with the development of a sound basis on which one may build plans for a career and mode of life consistent with and suited to one's individual propensities, potentials, and preferences. But we are also concerned with exercising and cultivating a habit of maximizing one's learning from whatever opportunities present themselves. We not only have a moral responsibility to let students know what sort of procedures they are involved in and what their rights and opportunities are with respect to those procedures; we also have an educational responsibility to help them to understand the modes of inquiry and communication used in the procedure and the system of values implicit in this process.

Special consideration has been given to the difficulty of using an instrument of the complexity of the Birkman Method as a focus for attention to the standards and techniques of inquiry in psychometrics and to the mode of operation of the affective (perhaps "transactional") elements within the Seminar process. No doubt there are many simpler examples for introducing this kind of learning, and no doubt many of the freshmen who are provided such information will gain little detailed understanding of what is involved. On the other hand, the instruments that are much easier to understand would not serve as well the other purposes of the program. The students have already had experiences with various other complex instruments, and they are entitled to know the quality of the information presented to them.

This rationale presents the current posture of the Project leadership, but it also looks forward by implication to a set of judgments that must be made at a later time both by Austin College and by any other institution considering the use of the instruments and methods to be developed out of the current process of inquiry and adaptation:

(a) Does the "Birkman Method" as adapted for college use have significant positive value for most of those college freshmen who experience it?

(b) Is it "safe" enough even for the more fragile personalities when administered using Seminar leaders who have had a brief orientation and training but are not professionals in clinical psychology?

(c) Do the explanatory materials and presentations give a fair-minded representation of the processes and their theoretical bases and of the validity, reliability, and pertinence of the information provided in the individual reports?

(d) Even if this representation is quite defensibly fair-minded from the perspective of a psychologist, is it sufficiently understandable for the average college freshman?

(e) Given the whole set of needs and costs in higher education, and in the light of a comparison of costs and values with those pertaining to alternative instruments and procedures, would investment in the instrument and procedure developed out of the current study reflect a responsible stewardship of institutional funds?

Because both the Project leadership (and the program officials of the NSF, which is underwriting most of the inquiry and evaluation effort) believe that the needs are significant and that the Birkman Method and Seminar has great potential for meeting many of these needs, we earnestly hope that the answer to each of those questions will be affirmative. We not only hope for that result but also are dedicated to exploring every honest and respectable means for achieving that result. But, of course, we must be prepared to deal candidly and responsibly with the results of these efforts if they should prove to be less than we hope for and are working toward.

B. Brief Sketch of a Projected Schedule for Using the Products of Adaptation

The prospective elements of this adaptation will be provided below; this section is essentially a reiteration of a plan sketched out in a letter from the Project Director to the President of Birkman & Associates, Inc., on March 6, 1974.

The projected use of the basic program of the revised Birkman materials would involve three stages: first, an invitation to all entering freshmen to fill out the Birkman Questionnaire and a preliminary explanation of the potential values of this procedure and of the uses to be made of responses to the instrument;

second, an orientation session and small group Seminars in which each participant would receive his individual report and a copy of the newly revised interpretive manual and would be encouraged to maximize his learning opportunities through the interaction of voluntarily sharing portions of his report with the others in his group; and third, a session in which the basic procedures and standards of psychometric inquiry are described and discussed, and in which special attention is given to the validities and reliabilities of the Birkman instrument in comparison with other psychometric instruments of the students' acquaintance and with other modes of intellectual inquiry.

In the first of these three stages, something like the following might be given to the students in writing and read aloud as they follow it, just prior to their filling out the Birkman Questionnaire:

1. Responding conscientiously to the Birkman Questionnaire will be an educational experience in itself, as it will lead you once again to consider a wide range of what you know of human behavior--your own and others'. Your responses will be held in confidence and used only (a) for research and further refining the base of data pertaining to the instrument and (b) for preparing an individual report to you which will be released to you through the leader of your Seminar group and to no one else without your explicit consent.

2. The individual report you receive during the Birkman Seminar will provide information about how you can use your personal characteristics to advantage in a variety of individual circumstances and relationships with other people. During the Seminar you will also learn about the range of differences among equally positive personality traits and have an opportunity to deepen mutual appreciation and understanding within your group by the voluntary sharing of information in the individual reports.

3. A further educational experience will follow the Seminar in a review of the ways in which psychological measurement is different from physical measurement on the one hand and from mere guesswork

or intuition on the other. Through this review, you should gain a useful level of understanding of how to use information from the Birkman and other such instruments--what to expect it to be and to do for you, and what not to expect of it.

In the second stage, at the beginning of the Seminar in which the individual Reports are delivered to the participants and the revised interpretive manuals are distributed, we anticipate the presentation of an overall rationale and general introduction to the Seminar covering, on the whole, the kinds of information that have been dealt with up to now in a live lecture by a representative of Birkman & Associates. Some of the details of this introductory presentation would be changed, of course, in keeping with the insights reflected in the Technical Report. There would also be something of a change in style to accommodate the sensibilities of the audience and of substance to meet their needs for understanding the relative "softness" of the Reports they are about to receive. On this latter point, there would be an acknowledgement that all psychological instruments are subject to many kinds of errors, even with computer processing of the data, so that one should not accept the Report pages on blind faith but consider carefully whether they accurately reflect his personality. At present, we expect the development of a packaged presentation (film, slide/ tape, or TV tape)--refined to achieve the needed levels of accuracy and of effectiveness--to be used by a trained or oriented lay leader in the setting of a small group Seminar. Such a means of support for the lay leader should also facilitate the interaction within the Seminar group and reduce costs by obviating the need to import an outside person to introduce the Seminar.

Two additional paragraphs from the letter presenting the plan which this section reiterates may suffice to indicate how this three-stage procedure would attempt to capitalize on the educational opportunities both in the instrument and its associated Seminar and in the Technical Report presently under development.

> In maximizing the educational opportunities through some such procedure as that just outlined, one would not need to be concerned unduly with debates over the statistical validities or reliabilities prior to the Seminar experience. The "transactional" or "positive sharing" values of self-recognition and acceptance within the Birkman Seminar experience itself would be preserved. At the same time the following session (item 3 above) would provide an unusually propitious time for students to be introduced to fundamental aspects of intellectual inquiry--the collection of data and the use of data.
>
> Let me say this another way. The technical report ultimately will present data, but obviously it will be soft data and it will be subject to the opinion and debate of experts and self-styled "experts." Perhaps the data will be about as soft (or hard) as that for other such instruments. Whatever it is, we do not believe the degree of hardness or softness nor the comparisons need be the central issue. (If it is, then there will be problems.) The educational context we anticipate can pre-empt debate and, in fact, utilize the data (however hard or soft it may be) to raise significant issues pertaining to intellectual inquiry for all students, which would add both credibility and additional educational value to the experience.

C. Topical Summary of Adaptations of Materials

The primary focus for most of the adaptation plans described in this section was a Planning Conference held at Austin College on November 20, 1973, involving Dr. Roy B. Mefferd for both Birkman & Associates, Inc., and the Birkman-Mefferd Research Foundation, and Drs. Frank C. Edwards, Jack J. Jernigan, and Paul L. Thomas for Austin College. This particular summary, however, reflects

also a course of apparent progress since that time in the understanding of the Project leadership.

1. First, and already well underway, there is a need for a Technical Report on the basis of which one may be able to make reasonable judgments about what personality factors the Birkman Method measures, how accurately it measures these factors, how stable these factors (or their measurements) are for college freshmen, and such questions properly affecting how one should interpret the Birkman reports and thus what an interpretive manual should say about such matters.

2. Second, further consideration should be given to the proposed division of the present instrument into two parts: (a) a revised basic instrument either excluding or subordinating the "Interests" segment and used with lay leadership in the three-stage mode described in Section B above, and (b) a substantially strengthened instrument for career guidance to be used with the professional counseling staff of the College or other institutions Of particular concern in this regard is the preponderance of testimony from lay leaders at Austin College. Many have felt relatively secure in dealing with the Report pages describing basic social needs and the consequences of their satisfaction and frustration but have felt quite inadequate both in handling the placement of the Interests asterisk and in responding to student anxieties related to an apparent disparity between their interests profile and their intended career choices. Another concern which this adaptation might effectively respond to is the needed reduction of unit costs for the basic instrument.

3. Third, there is a need for a complete rewriting of the interpretive "Manual." Here the first consideration would be that it accurately reflect the results of the investigations reported in the Technical Report. With almost equal importance, though of a different kind, it should be addressed more directly to the collegiate audience. In this respect, problems with the existing manual involve primarily matters of style, attitudes, frames of reference, and kinds of sophistication. Appeals to authority, unacknowledged oversimplification, illustrative stories that are either quaintly old-fashioned or narrowly focused on business management, and even slight suggestions of sexual or ethnic discrimination, are all impediments to the usefulness of these materials with today's college freshmen and embarrassments to many of the academics who deal with them.

4. Fourth, it will be specially important to give very careful consideration to choices of the appropriate and effective setting, media, content, and structure of the third stage of the educational context described briefly in Section B above. There is no point in pretending this will be easily done, because it seems a formidable task from the present perspective of the Project leadership. Yet on the accomplishment of this task may depend the whole question of whether the Birkman Method and Seminar can be adequately adapted for on-going use in a collegiate setting. Nevertheless, we believe this can be done and that an important contribution would result, and perhaps we may find substantial help in this task from sources not yet identified.

D. The Mutuality of Interests Among Austin College, the National Science Foundation, and Birkman & Associates, Inc.

Perhaps it goes without saying that the primary concern of the Austin College Project leadership in the matter of reviewing and evaluating the Birkman materials is a combination of the welfare of Austin College freshmen and the stewardship of the NSF grant funds for this portion of the Project. Although the Austin College concern is especially focused on the needs of this particular institution, both the College and the NSF are aware that the needs identified are not altogether unique and are hopeful that this and other parts of the Project may result in materials, procedures, and insights useful to higher education in general. Thus, while there is hope for success in this venture, these concerns are inextricably tied to the proprietary interest of Birkman & Associates, Inc., in their preparing at their own expense materials and procedures suited to the broadening of what for that corporation is a new market in colleges and universities.

THE BIRKMAN METHOD AND SEMINAR

AN INTERPRETIVE HANDBOOK FOR PARTICIPANTS AND A SEMINAR GUIDE FOR LAY LEADERS

Adapted for use in the
Austin College Program, 1975

Copyright 1974 by Birkman & Associates
Houston, Texas

CONTENTS

BIRKMAN SEMINAR INTRODUCTION iii

AN INTERPRETIVE HANDBOOK FOR PARTICIPANTS

Introduction to the Birkman Method 1

Factors that Shape Human Personality 2

Theoretical Orientation and Assumptions 4

The Format of the Computer Report 7

Report Page 2: Getting Along with Others 7

Report Page 3: Giving and Accepting Directions 10

Report Page 4: Handling Conflict and Competition 12

Report Page 5: Emotional and Physical Stamina 14

Report Page 6: Organizing and Planning 16

Report Page 7: Decision Making 18

The Interrelation of the Pages 18

A Comment on the Validity of the Computer Report 19

A SEMINAR GUIDE FOR LAY LEADERS

The Leadership Role in the Seminar 21

Helpful Suggestions to Give to Seminar Participants 24

BIRKMAN SEMINAR INTRODUCTION

Note to Seminar Participants. The following is the text of an oral introduction to the Birkman Seminar transcribed in July 1974 by the developer of the Method and Seminar, Dr. Rogert W. Birkman, of Birkman and Associates, Houston, Texas.

You are about to begin what may well be one of the most interesting experiences of your life. In these group discussions you will be receiving information about your potential. You will be developing a better understanding of yourself and others. However, obtaining this understanding is really not an easy accomplishment. This is because we are frequently blocked by our self-image, by our pre-conceptions and mis-conceptions. We have an opinion of what we are, of the image we are trying to project. But are we right? Unless we can get outside ourselves and view ourselves from another point of view, we have great difficulty being objective. We are literally trapped by our personal norms.

We also have great difficulty seeing other people as they really are. There are many reasons for this. We create other people in our own image. This leads to all kinds of complications. We know, for example, that we tend to establish relationships with other people to satisfy our unfulfilled needs. Each one of you has brought to Austin College your own distinctive personality, your own strengths, your own hang-ups. By nature you have a need to express these strengths and basic personality characteristics. But, if your personal talents are not used or if they are not understood, or if they are misunderstood, you will feel a sense of frustration or agitation. For this reason we need to learn more about the personality factor which influences your thinking and your ability to express your talents.

By the use of the computer a new dimension has been added to the behavior sciences. We can now analyze your personality characteristics in a more objective, systematic manner. An objective computer-written report has been prepared for each one of you individually. It will help you learn who you really are and what you believe in. It will enable you to see yourselves as others see you. I sincerely hope it will help you see more clearly your talents, your uniqueness, your special needs--so that the time you spend at Austin College will be the most productive you could possibly spend. You can be assured that this added information will benefit you in a very substantial way for years to come.

We have found that most groups are apprehensive about what is in the reports. This is only natural. We do not want to disclose to others our unsatisfied needs or special weaknesses. Let me reassure you on this point. You are going to find that just the reverse is true. The reports are not derogatory. Now I am not saying that you will view all the remarks as complimentary. If I did, I would be ignoring the fact that our personalities are composed of strengths and offsetting weaknesses. But I am saying that you are not destined to be controlled by either.

This seminar is not judgmental. Nor do we start from zero. By virtue of the questionnaires you filled in you will be provided statements about your strengths and limitations in various critical areas. But let me say again you won't be embarrassed. We are not concerned with how or why you came to be like you are. You are the unique person you are. So let's capitalize on your uniqueness. Everyone contributes to his world regardless of his way of doing things. There is no ideal or utopian personality. There are just too many successful, dynamic people with dissimilar personalities to say that one type of a person is eminently more successful than all the others. Also, there are just too many varied daily situations to say that one super person will overcome all situations due to a combination of assets in his personality.

The objectives in this seminar are basically threefold: Objective No. 1 is to help you understand your own personal goals and basic needs a little better, or perhaps to confirm what you already know about yourself. The second objective is to help you develop a better understanding of other people by supporting their needs. The third objective is to help you merge your personality with the requirements of your career goals. Much the same as we look at the characteristics that make up your personality, we can also look at the requirements of the various occupations that you will be considering in the course of your college career. We can begin to consider how your personality needs can match various job requirements.

Before you start reading and discussing your reports, I would like to take this opportunity to explain some of the features of the program briefly. Everything I say here will be mentioned in the manuals you will be receiving, so don't feel you have got to remember absolutely every word. Specifically, however, I will be emphasizing in this introduction important features of the program which will help all of you to get the maximum benefit from your discussion of the results.

First, a word about the Method itself. The basic assumption behind it is that what an individual believes about the attitudes and feelings, the motives and behavior of most people reveals more about his own abilities and needs than any statements he may make about himself. Most people do not realize that they tend to create others in their own image. I think you are going to find it

fascinating to see how a greater awareness of this will increase the effectiveness of your behavior. You will recall that the questionnaire you answered consists of two sets of true-false questions. One set asking about your understanding of most people and a similar set asking how you understand yourself. Your answers to the questionnaires about most people reveal a great deal about your occupational abilities as well as your ability in human relations.

The pattern of differences between the way you answered the same questions for most people and for yourself is especially revealing. Some people answer the questions much the same. Others see very little similarity between themselves and other people. Neither way of answering is good or bad. Here again we see individual differences illustrated. And simple as this type of analysis sounds, it can provide such a wealth of data that the latest computer technology is required to analyze your responses and reduce them to groups of meaningful pattern responses.

But what is personality? The manual you will receive will give you more details of the dependence of this approach on accepted principles of personality theory and testing. Those of you who have even a passing knowledge of psychology, will know that this is a vast and complex question. One approach to it is to consider several factors which influence its shaping and expression. We might, for example, think of personality as the result of the interaction of at least five factors. First, the individual's basic needs; second, his environment; third, his intellectual and aptitude factors; fourth, his body chemistry; and, finally, his system of values. I'll say just a quick word about each one of these.

By basic needs, we do not mean food, shelter, safety and so on. They are, rather, those needs you feel after these essentials have been satisfied. If these needs are fulfilled you are likely to express your personality positively. But, if they are frustrated, you are likely to have difficulty controlling negative attitudes and feelings.

Environment also influences behavior in obvious ways. Not only such obvious factors as the weather, but social environmental factors have a considerable effect on the way a person feels. Again, intellectual and aptitude factors may have a liberating or limiting influence on behavior. We also know that body chemistry can have a striking effect on the way we feel and behave, though the precise relationship is still obscure.

And finally, it must be obvious that a person's own system of values affects his functioning as a human being. Our personal values must determine to an extent our identities as individuals.

You are going to find that the Method ties in basically with some aspects of the so-called "self-actualization theory" of Abraham Maslow. But you are not likely to find a conflict with any theory of personality you favor. Further details are given for your consideration concerning various theories in the manual. The computer report concentrates on six social needs that are vital to success in all human activities. Your ability to get along with people, the way you give and accept directions, how you handle conflict and competition, how you maintain emotional and physical stamina, the way you organize and plan your activities, and the manner in which you make effective decisions.

You are probably curious about the form in which the results of the questionnaires will be presented to you. Perhaps I should go on and say something about the report itself. It consists of seven pages. The first page takes the form of a personal letter to you and lists six kinds of strength behaviors. These are considered your best strengths when your basic needs in six areas are being met to a satisfactory degree.

The following six pages of the report use a standard, uniform format. In the center of each page, a basic need is stated. We are assuming that this need is basic to your unique personality structure. The paragraphs printed above this basic need on top of each page describe your strength behavior, the meaning of which I have just explained. The paragraphs printed below the basic need at the bottom of the pages describe your stress behavior--the handicapping or limiting part of your personality which will become apparent when the basic need is not adequately met. I would like to stress here that these paragraphs deal with potentials, not actualities. This is important. Only you as an individual can decide whether the strength or stress behavior is going to be operating at a particular time or place. Here you do have free choice. It is up to you to decide whether your present behavior corresponds with what appears on top or on the bottom of these pages.

At this point I'd like to say something about the importance of seven factors as regard the materials and their use within groups of people. Point No. 1: The Method demands no trained leadership of groups, and indeed works excellently under lay leadership. You will find that members of your group can be trusted to build a climate of acceptance and personal insight simply by working from the information printed on the computerized guide pages. We have found that the group itself is an amazing source of constructive ideas and insight. Professionally trained leadership can be helpful, but this is not a requirement for the success of any group. Of course, if you have had psychological training you may very well have your own ideas about certain personality traits described on the guide pages. Feel free to express them. But what is important is that discussions include the ideas of everyone present.

The second point is that similarities in the reports are very important. You may wonder about these similarities at the outset. It is true that each of us is different, but in many respects we are more similar than dissimilar. The similarities outlined stress what unite us rather than divide us. They will demonstrate to your group that you have interests and needs in common with others. You are going to find this reassuring. The similarities will also show that the basic social and personal needs transcend racial, economic and social differences in background.

The third consideration is that the reports are phrased in everyday language. In general you will find the descriptions positive, hopeful and non-judgmental. There is consequently no need for you to feel that your inadequacies or weaknesses are being discussed or revealed in such a way that you are being put down or belittled. Always keep in mind that each of your weaknesses also represents a potential strength.

Still another consideration is that the Method is based on the assumption that everyone has basic needs in the areas I outlined a few minutes ago. These needs are based on goals and values which are not only universal, but also universally desirable. You are going to find for yourselves that your group will be drawn together in the understanding that each one of you is simply striving for these goals in your own unique way. You are going to find that conflict often arises merely because you often deal with others on the basis of your own needs rather than take into account the needs of the other person or the needs of a given situation.

The fifth point. Please keep in mind that the report emphasizes strength behavior. Your primary attention should be focused on the potential strengths which appear on the first page of your report and at the top of each of your guide pages. Even the depressed individual is, therefore, forced to admit his potential talents as well as his weaknesses.

The sixth point to consider is that the report is based on the assumption that every one of our traits of personality has two sides--one negative and one positive. This will encourage each one of you to seek ways of meeting the basic needs of each member of the group so that your personality traits and special interests can become assets rather than liabilities.

Finally, the report encourages you to exercise a maximum degree of freedom of choice as well as intelligent choice. You are encouraged to accept with the help of your report your own distinctive personality traits and potentialities, to see that your strength and success will lie in one area of life rather than another, to see that you have a responsibility to help others meet their needs and to adjust to situations rather than to attempt to adjust situations to your own needs.

I sincerely hope it will be apparent from what I have said in this introduction that the reports you will be receiving cannot by any stretch of the imagination be said to constitute a threat to you as an individual. We have gone to great lengths to design the report to help you become fully aware of your strengths, to realize your full potential, to help you identify your basic needs for your long range as well as immediate personal fulfillment. My wish for you, for each of you is that your group will in fact find this one of the most interesting and rewarding experiences of your life.

AN INTERPRETIVE HANDBOOK FOR PARTICIPANTS

Introduction to the Birkman Method

The Birkman Method probes behind man's conscious behavior and awareness. Its underlying assumption is that the statements an individual makes about the attitudes, motives, feelings, and behavior of "most people" are in some ways more significant and revealing than the statements he makes about himself. There is a close relationship between the way an individual judges the motives, intentions, and behavior of others and that individual's own characteristic, but frequently unrecognized modes of thinking and behaving. Each person unwittingly attributes to others his own thoughts, attitudes, and feelings. Essentially then, an individual is as he sees others; but he may not be consciously aware of this. The Birkman Method is a way of gaining that awareness.

For the individual, the Method begins with the Birkman Questionnaire. It provides a combined report of one's perception of "self" (i.e., of his own personality) and of "most people" (i.e., of his social perceptions). In a set of true-false questions, a person is asked to state his or her understanding of "most people." Next, the same set of questions is answered as the person regards himself or herself. In one sense, answering the questions about "most people" is an objective task: these statements have correct answers--the average answers of many people. It is presumed that the answers to the "most people" questions reflect a person's judgment, knowledge, and skill in human relations. This procedure minimizes the defensiveness and falsification, both intentional and unintentional, that often result with "self" answers where one is likely to be much more self-conscious and defensive.

In general, people tend to attribute more positive qualities to "self" than to "most people" and to avoid attributing to "self" the traits they regard as socially undesirable. A "configuration analysis" approach (an analysis of the patterns of responses rather than merely statistical summaries) reveals that people tend to group themselves around either a need to see "most people" in a socially acceptable light on the one hand, or a counterneed to see "most people" in a socially unacceptable manner on the other. The pattern of differences between the way a person answers the same questions for "self" and "most people" provides especially significant reflections of a person's self-understanding. Modern computer analysis permits the apparently endless array of patterns of responses to be grouped according to a small number of basic needs, traits, styles, and potential behaviors.

The theoretical foundation of this approach depends upon a unique combination and application of accepted principles in personality theory and testing. Behavior is usually determined by one's perception of "self" and "others" rather than only by objective reality. Moreover, people attribute to others their own thoughts, motives, and attitudes. Because of these tendencies, the questions asked may be phrased simply and directly, without any signficant deception

about their real purpose and meaning. The result is a questionnaire which, though brief, discriminates among differences that appear to reflect basic personality traits.

Factors That Shape Human Personality

There are almost as many theories of personality as authors writing on the subject. Even a cursory survey reveals a multitude of differing concepts. This great diversity of concepts is due to the complexity of human personality. Perhaps it is impossible ever to define what it means to behave as a human. No one concept of behavior seems to be complete.

One approach is to consider several factors which influence the shaping and the expression of an individual personality. We may think of personality as the result of the interaction of at least five factors:

(1) Basic Needs. Each person has his own unique constellation of behavioral needs. After the needs for food, shelter, safety, and social relationships are met to some essential degree, the individual strives to fill higher level needs. These needs are neither "good" nor "bad" in themselves. They simply exist, much as other biological aspects of life. Brown eyes are no better than blue eyes; blonde hair is no better than brown hair; being short is no better than being tall. Traits such as these simply exist. Regardless of the combination of traits a person has, it is possible that an awareness and acceptance of his traits can enable a person to use them to positive advantage.

The interesting questions of the relative influence of nature and nurture, of heredity and environment, on the personality are not critical to the very practical purposes of the Birkman Method. However, while it is not necessary to know the "how" of our basic needs, it is important to recognize and understand their influence. They are as real as brown eyes and blonde hair.

The pattern formed by our basic needs reflects dimensions of personality. The fulfillment of basic needs tends to produce positive personality states. On the other hand, the non-fulfillment of such needs tends to produce negative states. These negative states lead to behavioral patterns, attitudes, and feelings which inhibit mature, effective life patterns.

(2) Environment. Factors such as personal health, financial security, interpersonal relationships, and educational opportunities, all influence behavior. Most people act differently when it is very hot or cold than when the temperature is mild. Most people are influenced by the reality of financial setbacks or by the sense of well-being when financial stability is achieved. Obviously, a happy interpersonal relationship--within a residence hall, within a marriage--usually has a positive effect on how a person feels about himself as a person; on the other hand, an unhappy relationship will tend to have a negative influence. Social environmental factors, such as current problems of war and peace, racial difficulties, poverty, crime, all have their profound effect on how a person feels. And such feelings influence behavior.

(3) Intellectual and Aptitude Factors. The individual human being is far too complex to be described simply in terms of intellectual or aptitude factors, but these factors do influence behavior. There are liberating as well as limiting factors in the intellectual levels and aptitudes which a person possesses, and these in turn influence behavior.

(4) Body Chemistry. This is a new frontier in the area of understanding personality. Chemical conditions within the body do affect behavior--sometimes in very striking ways. But the everyday relationships between behavior and body chemistry are still largely obscure.

(5) Value System. What a person esteems--his own value system--affects his functioning as a human being. What Pasteur believed about the nature of disease cannot be dissociated from his personality. What St. Francis believed about God cannot be separated from his total personality. What Hitler or Al Capone believed about the dignity of human life cannot be disconnected from their overall personality.

The values by which a person lives his daily life have a strong influence on his identity as an individual. Conceivably, a person who has implemented all of his basic needs, has a positive environment, has intelligence and aptitude factors fulfilled, and has a functional chemical balance in his body, may still find great difficulty in achieving a fulfilling and satisfying life because he maintains a negative, purposeless value system.

Theoretical Orientation and Assumptions of the Birkman Method

The philosophical orientation of the Birkman Method is consonant with certain aspects of the self-actualization theory of Abraham Maslow (Motivation and Personality, 1954 & 1970). It focuses on the intermediate level of Maslow's psychosocial needs--self-esteem, belongingness, love. Until and unless the needs of this level are met, the higher level self-actualization needs (i.e., the meta-needs)--beauty, truth, meaning, transcendence--cannot be met. Yet, much of life's unhappiness and dissatisfaction are due to not meeting the more basic intermediate needs.

The Birkman Method concentrates on six areas of social needs that are vital for success in all human activities regardless of the level of Maslow's hierarchy of needs at which a person is functioning. This concept of basic psychosocial needs and other theoretical and practical assumptions are briefly explained below. Each has a major effect upon the Birkman materials and their use in a group process.

(1) The Effectiveness of Lay Leadership. A key factor in the success of the Birkman Method is the use of lay leadership, persons untrained in counseling or psychology. The Birkman Method not only permits the use of lay leaders, but generally is more successful when the Seminar leader is not a trained counselor. The use of trained leadership tends to encourage an authority relationship upon which members can depend rather than developing their own interpretive insights. With lay leaders, however, the group members more easily trust themselves to use the structure provided by the computerized guide pages and their own sensitive contributions to build a climate of acceptance and personal growth.

(2) The Importance of Similarities. Emphasis is on what unites people rather than what divides them. Thus, the group process and personal growth are enhanced when the materials received reflect similarities between group members. Without denying the uniqueness of each individual, participants are encouraged to realize that they have interests, feelings, needs, and problems in common with others, even those who may seem quite different. This is immediately seen as group members receive guide pages which are similar or identical in wording.

This characteristic of the Birkman Method may have special importance when groups include persons of different racial or social or economic background. It is equally significant in the common experience of apparently homogeneous groups, which usually include people who feel isolated from those around them.

(3) A Non-Clinical, Non-Judgmental Approach. Most people approach any form of psychological testing with the considerable fear that the process is

designed to reveal their weaknesses. They dread being labeled in clinical and technical terms. The Birkman Method materials are phrased in non-technical language, and the purpose is description rather than evaluation or clinical classification. Accordingly, information is given in ordinary language and is easily understood; furthermore, it is basically positive, hopeful, and non-judgmental.

(4) The Concept of Basic Needs. The Birkman Method assumes that each person has a set of basic personality needs. "Strength behavior" emerges as the result of needs being met, whereas "stress behavior" is the inevitable result of these needs going unmet. A person's educational activities, employment, and interpersonal relationships must be in harmony with these needs and help to meet them. There are many possible categories for "basic needs," but this program focuses on the needs in six significant areas:

Getting along with others (Report Page 2)

Giving and accepting directions (Report Page 3)

Handling conflict and competition (Report Page 4)

Emotional and physical stamina (Report Page 5)

Organizing and planning (Report Page 6)

Decision making (Report Page 7).

These "basic needs" are grounded in universal human values, such as love, community, independence, mastery, order and structure, and creative activity. In groups, the effect of this appeal to the universal in human nature is to help draw people together and overcome a sense of difference or isolation. Since we often deal with others on the basis of our own needs rather than the facts inherent in a situation, conflicts and communication barriers occur between those who have different needs. When it is seen that each human being is striving in his own way to attain universally desirable goals, the way is open for greater tolerance and a more realistic search for methods by which the needs of all can be met as well as possible. Moreover, as a person begins to recognize that he has needs which are or are not being met, he also may begin to see the same thing is true for those around him. His responsibility for the well-being of others is stressed along with the legitimacy of meeting his own needs.

(5) Emphasis on Strength Behavior. Going hand-in-hand with the non-clinical language and non-judgmental approach of the Birkman Method (and the concept of basic needs) is an emphasis on strength behavior. Page 1 of the computer report is a preliminary description of one's potential strengths, and the top portion of each of the succeeding pages is a further elaboration of these potentials within the personality. The result is that often even an individual who is feeling depressed, who is feeling worthless and avoiding awareness of his strong points (and corresponding responsibilities), is enabled to recognize his potential talent along with his weaknesses and faults.

(6) The Dual Nature of Traits. An aspect related to the non-judgmental character of the Birkman Method is the recognition that any given personality trait has two sides, one negative and one positive. For example, rebelliousness may be a negative expression of inner strength, shyness is related to a sensitive concern for the feelings of others, and a tendency to depression to warm sympathy and genuine empathy with others.

This aspect in the Birkman Method encourages group participants to seek ways of meeting their basic needs so that the traits identified may become assets rather than liabilities. Obviously, this is a very positive approach, in that the goal is acceptance and constructive use of one's personality traits.

(7) The Possibility of Freedom and Choice. Man has the capacity and freedom to make choices which alter his destiny. In an environment which provides a feeling of acceptance, a person can overcome fears of self and others and act toward definite goals. The purpose of the Birkman Seminar is to generate support for each individual in further developing certain practical skills and perspectives in human relationships: (a) acceptance of one's own personality traits and potentiality with the aid of the computerized reports, (b) recognition that strength will lie in one area of life rather than in another, (c) recognition that one has a responsibility to help others meet their needs, and (d) ability to adjust to given situations according to the needs of the situation instead of trying to adjust the situation according to one's own needs.

An objective, then, is an increase in the feeling and experience of freedom on the part of group participants. This includes the ability to behave at times in ways opposed to one's own particular needs for the sake of others. The supportive relationships and interdependence within the group may provide enough security and satisfaction of one's own needs that he can in turn act for others.

The Format of the Computer Report

Page 1: Personal Letter Summarizing Strengths. The letter on Page 1 anticipates the multiplier effect of potential strengths by listing six kinds of strength behaviors together, and in doing so provides an additional outline of the pages to follow. This "Strength" page is, in effect, a description of the individual's social behavior when he or she believes each of the basic needs in these areas is being met to a satisfactory degree.

The Format of the Guide Pages. In the center of each of the guide pages (2-7), a "basic need" is stated. This need is assumed to be a fact, a reality of the particular personality structure abstracted by a complex procedure from the individual's responses on the Questionnaire. The paragraphs above the center describe the "strength behavior" which is potentially available to the person when his basic need is adequately met, and the paragraphs below the center describe the "stress behavior" which is equally potential in the personality and which will be acted out to the extent that the basic need is not met adequately. This material is only descriptive of potentials. The page does not say whether strength or stress behavior is actually operative; only the participant can say that. His clue to the situation, however, is to be found in an identification with one part of the page or another. Does he recognize his present behavior represented at the top of the page, or the bottom, or both?

Report Page 2: Getting Along With Others

The principal needs identified on this page are the following: (1) need for the approval and respect of significant individuals, (2) need for recognition and respect from groups (or from people in general), (3) need for both individual and group approval, and (4) need for relationships which are frank, direct, and straightforward.

1. Need for Individual Approval. Most people, by far, evidence this need for a personal, one-to-one approach to finding acceptance, recognition, understanding, and affirmation in their relationships with others. In other words, most people like to be liked by others on an individual, personal basis. Unless this need is understood in creative terms, there is a tendency to look for approval in almost all relationships. Any rejection, obvious or subtle, in even casual relationships can create a sense of non-fulfillment of this need and thus bring about the consequent pressure behavior pattern and its attendant negative feelings.

When a person with this need can emotionally, intellectually and honestly say to himself that the key persons in his life approve of him, then his need will be met and he will function as described on the top part of the guide page.

But it is important to focus on only a few key individuals and to expect of them only the kinds of approval their limitations allow.

There is a tendency, for example, for a husband with this need to expect his wife to love, approve, and accept him on the terms and on the conditions of his own needs, wants, desires, and wishes. It is a basic but very difficult idea to learn that anyone can only love, approve, and respect another from the boundaries of his or her own personality and life situation. A wife can only love her husband within the limitations of her personhood. She can only accept him within her own framework as a human being. She can only approve of him within the reality of her own strengths and limitations. We are likely to be unhappy and frustrated whenever we insist on being loved the way we want to be loved and fail to accept another's full measure of love because it doesn't meet our self-created standards.

2. Need for Group Approval. Statistically the second most common basic need in this area is the need to be accepted or approved by people in general, by the group. This need suggests a basic "one to all" approach to life instead of a "one to one" relationship. This person will seek group relationships to find his sense of worth and approval. It is more important for him to have a strong identity with a circle of people than with certain individuals.

While the person with a need for individual approval will seek key persons to furnish this need, the person with a need for group approval will seek key groups for his sense of well-being. Who are these groups? Again, this list may vary somewhat with each person, but the basic outline of significant groups would include the family, the work or school group, and possibly one other social group. If a person can recognize that these three groups really do accept and approve him, then this need is met and he will display the positive traits which are described on the top of his guide page.

Of course, this person also has to evaluate his key groups honestly and ascertain if within the limitation of each group's ability to accept, acceptance has really been given. The group-oriented person must be willing to accept the approval tendered him within the limitation of the group's potential.

3. Individual and Group Approval. This is a combination of the above two needs. There are some individuals who simply need the approval of both individuals and groups. They must seek to understand that key individuals accept them on a person to person basis and that they have this acceptance from key groups. There is a good chance that when a person with this need finds the acceptance from key individuals, he may need approval from only one significant "outside" group to fill his other social need.

4. Need for Direct and Straightforward Relationships. This person's sense of security in relating himself to others does not lie in the area of acceptance as such. Instead, he needs for others to treat him in a direct, frank, honest, open manner. While it is a rather simple need to understand, it is one most difficult to find fulfilled. With the preponderant majority of the population seeking some form of approval, they are not likely to be as direct and straightforward as persons with this need demand. Certainly each one sees life through his own self-understanding, through the dimensions of his own basic needs. Most people seeking some form of approval are not as direct as those with this particular need prefer. This is because they say to themselves, "It is true that I really would like to tell John that he has hurt my feelings. However, if someone were to say that to me, I would have my feelings hurt. So I will just hint at what I really feel and surely John will be able to read between the lines and we can correct the situation."

A person with this need for direct relationships is not very good at reading between the lines. He cannot fill in the blank thoughts, the unspoken attitudes. Even though he may know that something is wrong, he will not receive the message unless it is specifically stated.

Report Page 2 (Getting Along with Others) is representative of the guide pages in providing a possible springboard for discussion of differences within the group. As participants move from the pages to discuss current issues in their own lives, the "skeleton" information of the pages is given "flesh" and life. Hopefully, interaction between different people in the group begins to take place, and the characteristic behavior of members (whether tact and diplomacy, or casual friendliness, or blunt directness) is demonstrated and evaluated. For those who have difficulty accepting their page, it is important that this kind of interaction take place.

> Note: On any of the guide pages, a need may be described as "moderate." This simply means that the components are balanced in such a way that the individual shows a very even distribution of components which in effect creates a situation where for all practical purposes no need exists in this particular area. A moderate need suggests balance--in effect a need to avoid extreme situations if practical. Under extreme situations, the individual will experience stress conditions such as those described on the bottom part of the page.

Report Page 3: Giving and Accepting Direction

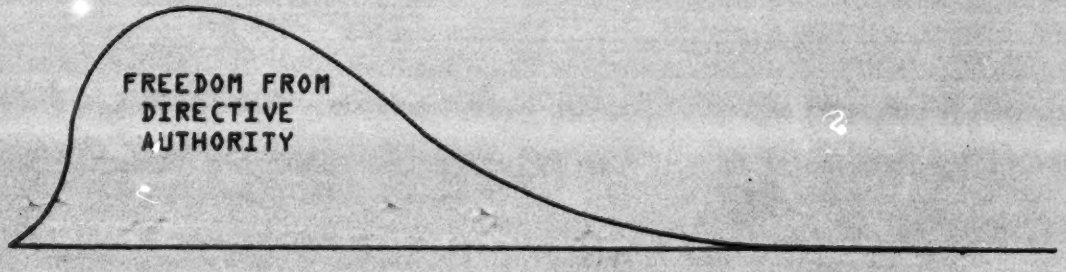
A simplified analysis of needs in this area can be illustrated by a bell-shaped curve. People on one end of the curve have a very strong need to be free from any formal supervision and control. These are the individuals who misinterpret suggestions as commands and reject directive instructions. Those on the other end of the scale welcome explicit directions. They need to know what is expected of them, the exact manner in which a specific task is to be done. They welcome knowing what is expected so they can execute the job at hand without misgivings or anxiety. Of course, most people fall between these two extremes. The curve looks something like that depicted in Figure 1.

Figure 1

A FEW PEOPLE HAVE A STRONG NEED FOR FREEDOM FROM DIRECTIVE AUTHORITY.
MOST PEOPLE FALL WITHIN THIS AREA.
A FEW PEOPLE HAVE A STRONG NEED FOR DIRECTIVE AUTHORITY.

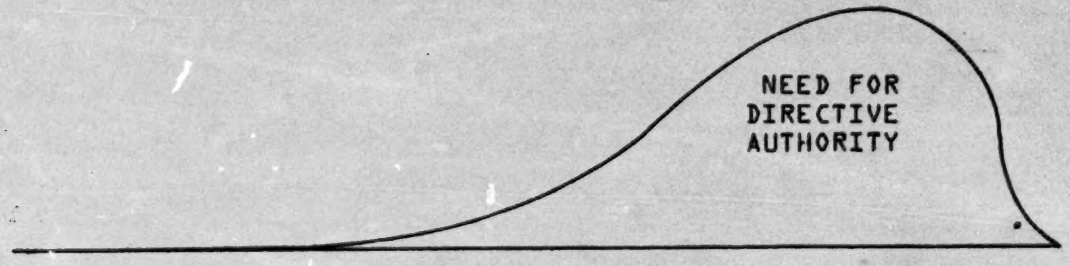
Knowing that people have a tendency to construct the above curve on the basis of their own needs rather than facts is a great help in unraveling the mysteries of behavior. In actual practice, on a subconscious level, people tend to see others in terms of their own self-understanding. For example, if one has a strong need for freedom, he structures the curve relating to "Giving and Accepting Direction" (Figure 2) in keeping with his own personal need.

Figure 2



The person who perceives himself as not needing to be bossed or controlled would probably assume there are a few people who have an intense need for structure, and he would allow for this in most situations. He would also allow for the possibility that there are some people who have an even more intense need for freedom than he has. But, according to his frame of reference, he would cluster most people according to his own needs and thus have a distorted view of reality as illustrated in Figure 2. The same principle in reverse holds true for the person who has a need for structure. He develops his own "most people" graph in accordance with his own inner need for authority and thus misjudges the situation by assuming the distribution indicated in Figure 3.

Figure 3



1. Need for Personal Oral Directions. A person with this need prefers to be given verbal instructions on a face-to-face basis. Receiving face-to-face instructions gives him the sense of security of knowing what is expected of him. He finds satisfaction in doing what is asked of him.

2. The Need for Rules, Regulations, and Systems. People with this need are comfortable in a life and work situation where they are given fairly specific outlines and instructions about their tasks. They like to know exactly, preferably in written or procedural form, what is expected of them and how they are to implement a given assignment. Their great strength lies in the ability to concentrate on a given job and implement it in accordance with a designated (the desired) procedure. But a sense of insecurity and a general feeling of "apprehensive uncertainty" develops when the need is not met.

This observation needs to be added. The "rules" need not be given by someone else. Many self-reliant and self-assured people find that they feel more comfortable in a given situation which allows them to think through carefully in advance the procedure for solving a problem or completing a certain task.

It is particularly helpful for individuals who have this need to first plan ahead and develop their own strategy and then attain the approval of that plan by a person whom they consider to be an "authority" figure. This assent provides the direction and certainty experienced when this basic need is satisfied.

3. Need for the Backing of an Organization or Group. A need such as this is manifested in a desire to be identified with a supportive and protective group or organization. This provides the person with a sense of certainty and security. It does not demand open direction and instruction as much as an inner sense of well-being derived from the knowledge that there is a significant "group" which can be counted on for support in times of need. Best performance can be expected when a committee, task force, club, church, or other organized group is available for back-up reassurance and help.

4. Freedom from Close Supervision. For a person with this kind of need, a sense of independence brings about a sense of purpose and creativity. What must be watched is the tendency to become "rebellious" when the need appears to be disregarded. The individual has a tendency to become non-cooperative, antagonistic, and even aggressive in order to protect his felt need for independence.

An awareness of this need can often check feelings of frustration (repressed anger) when there is close, detailed direction. Often a person with this need mistakenly feels that someone is over-supervising by directing him too closely, whereas an objective evaluation of the situation clearly indicates that is not really the case or that close direction is fully justified.

5. Freedom from Formal Group Control. The key word in this need is the word "formal." As long as the person providing the direction is seen in a personal, friendly, supportive way, the need presents no problem. People with this need, when it is met, do feel comfortable with directions and instructions. When, however, controls or directions are seen to be "formal" (impersonal, cold, authoritative, autocratic, bureaucratic), resistance to direction develops. The resistance is not primarily against the fact of direction itself, but against the manner in which the person receiving supervision perceives it to be given.

Report Page 4: Handling Conflict and Competition

Because our needs in this area are so complex, they are responsible for much of the misunderstanding which thwarts effective teamwork. "Conflict" is not destructive; it enables us to find better answers.

Why then are we so often frustrated by the presence of conflict in our lives? At least part of the answer can be found in understanding the diversity of basic needs. The distinct variety among basic needs in this area suggests that when we are confronted with a conflict, we have a prior personal need which dictates how we want conflict to be resolved. If we meet a person with a different need (as is usually the case) our basic need concerning how we want the conflict solved takes precedence over the conflict itself.

1. A Need to Minimize Situations Involving Face-to-Face Competitive Rivalry. The corresponding strength is the ability to use strong and deep feelings to identify with a person or cause and achieve goals of service. Under stress, the person feels incapable of handling conflict.

2. A Need for the Stimulation of Fresh Ideas and Projects. The person who receives this page typically exercises strength by using thought, strategy, new ideas, and cooperation to affect his environment. Stress behavior here involves inability to act decisively when in conflict and a tendency to underestimate the ability to influence others.

3. A Need to Be in Situations Which Require Neither Giving nor Receiving Strong Verbal Orders or Directions. This page suggests that aggressiveness relates to authority situations. Respecting authority, the person works through suggestions, persuasion, and pleasant and smooth relations with others. On the stress side is the tendency to avoid voicing one's real feelings, thus keeping others in the dark; peace at almost any price is the key.

4. A Need to Have Life and Work Situations Which Are Oriented Toward the Practical Rather than the Theoretical. This person influences the environment in a practical, matter-of-fact way with a detachment from negative feelings. He is definite in opinions and experiences stress when problems become theoretical or do not yield to obvious solutions.

5. A Need to Have Frequent Opportunities for Controlled Discussion and Debate. The person with this need is verbally competitive, able to stand up for ideas and convictions, outspoken. Stress can occur if verbal battles are not available; then the person may speak out without regard for feelings or for the situation in an effort to get or keep attention.

6. A Need to Be Free from Group Control. This person experiences firmness, independence, and inner strength; competition and conflict are needed as a challenge to use this strength. When there is group pressure of some sort, however, with consequent stress, this person becomes impatient, inflexible, and unwilling to keep others informed.

7. A Need to Compete. This is the need which stresses a competitive element within each individual. People with a competitive need do have a very strong desire to prove themselves in a conflict situation and to win out over other persons. This need can be turned to positive behavior when the individual remembers to use his competitive traits to achieve a high level of effectiveness within his own personal capabilities. Quite often we find that people with this need intuitively compare themselves with others. If this comparison does not give them the assurance that they have a competitive edge, pressures arise which can result in self-centeredness and manipulation of people. When a person with this need can honestly say to himself that within the constraints of the circumstances and of his own personal limitations he has done his best, then he has competed successfully.

Report Page 5: Emotional and Physical Stamina

This is probably the most important basic need. Over the long run, the fulfillment or nonfulfillment of a need in this area will greatly influence one's life style. Fulfillment of emotional and physical needs gives a sense of well being. The energy released is used to be creative, to solve problems, to pursue goals and to ensure a positive self-image. Nonfulfillment of these needs causes a sense of apprehension that something is wrong with one's life in a vague and general way; a sense of meaninglessness and lack of purpose can easily develop when this need is not understood and met.

There are a variety of needs related to Emotional and Physical Stamina. Only the most common needs in this area are discussed here, but the others are generally self-explanatory.

1. A Need for a Cause. People with this need want their lives to have meaning, purpose, and intent. They must feel that what they are doing is important. It creates a serious problem when a person with this need finds himself working on a task just for the sake of money or prestige--or, in school, for a credit or a grade. He believes that life asks much more than mere "success." There must be a sense of value, of worthwhileness. Life must have a "cause" in order to justify one's existence. As long as that cause exists, there is great inner strength in facing difficulties and challenges. The awareness of the "cause" provides the emotional strength to persevere and to pay the price that one's goal demands.

Persons with this need also must feel that their marriage or other interpersonal relationships are of great value and meaning. As long as the underlying positive value is seen in the relationship, great strength and personal determination result.

When the need is not met, a certain sense of uneasiness and anxiety develops. The person loses the emotional strength he needs to cope with life and a general feeling of inadequacy may set in. He begins to lose faith in himself. This feeling of uncertainty is then transferred to others, and he loses confidence in other persons as well. Life then makes it difficult to feel accepted.

People with this basic need must consciously evaluate their own "causes." If the values are there, if life is spent in something useful and purposive, then the need is met, and great strength and a sense of well being are encouraged. Experience has shown, however, that many people with this need do have by their own awareness and recognition a life that does involve a "cause," and yet temporary disappointments, sudden frustrations, or some personal rejection, may create feelings of "what's the use." Recognizing the trivial causes of these feelings is a useful way to avoid over-reaction.

If one really believes his job is important, then an unpleasant episode with client, boss, or peer does not take away the underlying meaning of the job. If one has a strong sense of purpose in the pursuit of a college education, then an unpleasant relationship with a professor or an unsatisfactory grade does not become a defeat. If there is a basic sense of value in a marriage, then an unpleasant episode does not remove the underlying cause. The deep meaning and purpose before the incident is still there. If one is not aware of this, such negative episodes can blot out the sense of basic "cause" to which you are dedicated. Conscious awareness that negative experiences can easily be exaggerated can overcome the destructive effects of such set-backs.

2. A Need for Challenge and Physical Activity. Persons with a need for challenge and direct action must also find a sense of purpose and meaning in their lives. But, in addition, there is a need to be physically active. If this person is in a situation where circumstances do not provide physical activity on the job, then it becomes imperative that an outlet for physical energy be provided in recreational pursuits.

Nonfulfillment of this need for challenge may bring about an aggressive attitude which can sharply limit performance.

3. A Busy Schedule. People with this basic need are best kept busy with definite things to do. They like to be on the go and keep physically active. Time on their hands makes them feel that life is passing them by. They often seek to be busy for the sake of being busy. This is not productive and can, in fact, be a means of glossing over real problems they might need to deal seriously with.

A lack of scheduled, purposeful activity brings a feeling of discontent. Introspective ability is lost; the need to keep busy does not allow time to take a long look inward. Working out a schedule of positive things to do helps people with this need to direct their drive and energy in useful ways.

4. Minimum of Abrupt and Unexpected Changes. To maintain their energy level, some people need a life situation which is reasonably well planned and does not impose sudden unexpected changes. A stable situation provides opportunity to think and to anticipate the course of events. Nonfulfillment of this need has a tendency to make such a person zero in on some particular aspect of the situation and thus lose sight of the whole picture.

Sudden changes may cause him to retreat into familiar patterns of response and shy away from new opportunities. There may be a tendency to greet all new ideas with a "No!" A person with this basic need must examine the nature of his "no." His negative response may be more emotional and defensive than rational. He must be very careful not to let his emotional defense mechanism influence him unduly. New life situations--even those eagerly anticipated, such as marriage, a promotion, attending college--may cause apprehension and a desire to revert to old and proven styles of life because new situations often bring unexpected changes and feelings of insecurity. Conscious awareness of this basic need can provide a sense of security and stability. Caution should be exercised to check the impulsive "no" and give the new idea or situation an opportunity to be considered.

5. Job and Life Situations Which Alternate Familiar and Difficult Activities. An individual who has this need must find some alternation of tasks in his activities. If his day is occupied with routine and easy matters, he gets the idea that he is really wasting his time and effort and not making full use of his capabilities; on the other hand, if he has to address himself to difficult assignments all day long, he feels tired and worn out and feels defeated because life demands more than he is able to deliver.

Some individuals with this basic need also need the additional support of daily, personal reassurance. A lack of awareness of this need for support can lead to a negative feeling toward oneself. Obviously it greatly enhances anyone's general well being to have some meaningful assurance of worth or acceptance.

Report Page 6: Organizing and Planning

The needs on this page are closely related to the needs on page 3 "Giving and Accepting Directions." Page 6 revolves more around the background organizational structure people need in varying degrees. Does an individual prefer to be part

of an organization where guidelines, rules, and the like give a satisfying frame of reference? Or, does he prefer to be independent of such structural support? Most people who have a need for directive authority are also likely to have a need for organizational backing and support. The reverse is also true.

Every once in a while someone is described with apparently opposite needs. It is important to know if such is the case. For example, a need for organizational support occasionally combines with a need for personal freedom from direction. This means that such an individual can satisfy his needs in a situation which provides a strong support in the form of organizational structure, but, at the same time, allows him to be self-directing in his own area of responsibility.

The need for organizational controls does not necessarily have to be met by external conditions. An individual with such needs can provide his own frame of reference. The important thing is that he has such a framework. He can construct this framework himself or it can be provided from outside himself. But he needs to feel that his life situation provides a system and frame of reference within which he can function.

While most of these pages are self-explanatory, some brief explanation is in order for two particular kinds of needs.

1. Freedom to be on One's Own with Background Support. This individual has a need to organize his own work. However, there is also a strong need to have backup support. In a classroom setting, for example, a student with this need wants to be left alone. He has the ability to coordinate activities and achieve results based on his own efforts to put things together. However, it is also very important to him to know that at any time when he wants to, he can walk into his teacher's office and consult with him about a project. He does not want the teacher to give him too many directions or instructions, but he has to feel free to have the teacher's ear whenever needed. This provides the background support he must have.

2. Idea-Minded--a Minimal Need for Direct Action. A person with this need indicates a high degree of self-direction and freedom from organizational restraint. The need does not suggest that he is not productive and cannot apply himself to demanding tasks. What it does suggest is that the individual must see the reason, the cause, the purpose behind the task. If he commits himself to the task at hand, then he does generate the ability to apply himself. However, when the need is not met and the individual feels he is merely "doing a job," pressures begin to develop and his behavior gravitates toward the bottom part of the page.

Report Page 7: De[illegible]n Making

The last of the guide pages dealing with a basic need is page 7. Though a certain variety is found on this page, the basic consideration in decision-making is the question of speed in deciding. Thus, the basic need is either for situations requiring quick and confident decisions or for responsibilities which do not require quick and decisive action. Those who act quickly may not consider all the angles; those who deliberate in order to avoid making a mistake may miss the appropriate moment. Either trait, quick judgment or deliberativeness, may be a strength or may lead to stress, depending upon its appropriateness to a given situation.

A third group is comprised of those who are not constitutionally compelled to make decisions quickly or to make them very deliberately. In other words, a moderate need involving speed of decision-making suggests that the individual will vary his decision-making process in accordance with his view of the situation rather than with a primary basic need to act slowly or rapidly.

A misunderstanding of this need can often lead to frustration between individuals. Experience has shown that best results can often be attained when there is understanding and tolerance between a fast and a slow decision maker. The slow decision maker has the advantage of time and reflection. This gives him the strength to point out areas which the fast decision maker has overlooked. On the other hand, the fast decision maker can push for the opportune time to take decisive action in a situation and in so doing not miss opportunities. Thus, an understanding of this need can bring about cooperation instead of the frustrations created because we seek to get others to conform to our own particular need.

The Interrelation of the Pages

Someone in every seminar sooner or later will say, "There is a contradiction on my pages." Yes, on the pages of many people there seem to be these contradictions.

Strengths--the top parts of the pages--are never to be regarded as contradictory. They are to be viewed as building blocks of self-realization. Different people will use different blocks. However, strength behaviors can always be correlated and creatively systematized into a meaningful whole.

That is not true of stress behaviors. It may very well happen that a person may show a great deal of potential for self-consciousness and hurt feelings on one page and be described as being potentially quite aggressive and even hostile on another page. How can this be explained? Think of the basic psychosocial

needs as being like the physical needs of different parts of the body. When the needs are met for all the parts, there is a generalized feeling of health and comfort, but rarely is attention drawn to the fact that the needs for the bone structure of the legs are being met. Assume, though, that there is a fall which results in a broken leg. The fact that eyesight is good, that the heart beat is effective, and that respiration is adequate do not take away or minimize the pain from the broken bone. The leg is that particular part of the body which gets all the attention. The "strengths" of the healthy members are important, but they do not take the mind away from the pain.

Similarly, when a particular basic need is not met, the person will experience the "pain" (the pressure behavior) related to the non-fulfillment of that particular need. The fact that other needs are met is certainly a fine thing but at that time somewhat irrelevant to that person's concern. The pain is localized in a particular area and that type of pressure behavior becomes all important. When one of the other needs is not met, then a different set of pressures begins to operate. It is precisely this diversity of pressure patterns which brings about diverse feelings under different pressure situations.

The way to overcome a pressure situation is <u>not</u> to deal with the obvious symptoms. If feelings are hurt, it does little good to say, "I will not allow my feelings to get hurt" (as if to say, "I will not feel pain"). If a person feels hostility, it does little good to say, "I will not be hostile." Instead, the negative symptoms are removed as the individual begins to identify the particular basic need that has not been met and then sets out to fulfill this need or, if necessary, to devise another method for dealing with the situation without resorting to pressure behavior.

A Comment on the Validity of the Computer Report

How accurate is this analysis of "Basic Needs" and related behavior that is produced in the Birkman Computer Report? Does it reveal the "real me"? The question of accuracy seems quite pertinent and may seem rather simple, but it really calls for more than one kind of answer.

Chances are that the more you study your report and reflect upon your needs and behavior, the more clearly you will recognize yourself. A part of that typical experience is the product of developing understanding and skill in interpreting both the Computer Reports and your own experience. Another part may be a matter of discovery of something you did not previously know about yourself, or had practically forgotten about. And another part may well be the self-fulfilling tendency present in nearly all such positively oriented profiles of personality, but there is no need to be defensive about that.

The whole Birkman Method of collecting data through the introspective method of a questionnaire, processing the data, and developing and printing the Computer Reports represents years of work by qualified professionals in the field of psychological measurement, using standards and procedures widely respected in that field. There are provisions in the procedure, for example, for guarding against a distortion of the results by accidental errors in placing the marks on the answer sheet. Still, it is possible for a person to skew the results somewhat by deliberate mismarkings, and there is something like the usual margin of variation that one finds in the general run of widely used personality profiles. As with any psychological instrument, there is the possibility that the individual report may not be entirely accurate. A technical report titled The Birkman Method; Reliabilities and Validities for Academic Use was completed in 1974 by the Birkman-Mefferd Research Foundation. It provides a detailed analysis of research concerning these materials and is available for review.

Another kind of response to the question of accuracy must take into account the fact that there is no universally accepted set of terms and categories for describing social needs and behaviors and no universally accepted theory of personality, and all such instruments do have a theoretical base. The Birkman Method is not designed as a clinical procedure whereby the psychologists who devise the materials and analytical procedures speak to a psychologist who then interprets the results for the individual who described himself by answering the questionnaire. Rather, it is designed to speak directly to the individual respondent and to do so in ordinary language as free as possible from the special jargon of psychologists. Partly because of this more direct approach to the individual, the Birkman Reports invite the test of self-recognition. Furthermore, in the sharing of reports in the Seminar, the Birkman Method also invites the test of more objective recognition: Do the others in the group recognize the descriptive statements as appropriate to that individual?

The quest for understanding ourselves and others is a lifelong process in which it is wise to give serious consideration to all the clues we can get--including, but not limited to, the insights provided through such psychological instruments as the Birkman Method and Seminar.

Perhaps, in fact, since no simple answer can be given to the question of accuracy, one should ask himself some more pertinent questions instead: Is the Birkman Method provocative? Does it stimulate my awareness of my own and others' psychosocial needs? How useful can I make my experience with this questionnaire, report, and seminar?

A SEMINAR GUIDE FOR LAY LEADERS

The Leadership Role in the Seminar

When the group has assembled and is ready to begin the Birkman Seminar, the Lay Leader's responsibility is to guide the group through the agenda provided by the computer reports and to facilitate the development of an open and supportive learning atmosphere of mutually helpful group interaction. The "Strength" Page, with which the report begins, helps to confirm the agenda and to set a positive tone for the Seminar.

The "Strength" Page (page 1 of the report) is addressed as a letter to the group member, characterizing that person's strength behavior in each of the six areas to be considered. It is different in format from the other pages of the computer report and is designed to serve several purposes: (1) The positive, strength-oriented outlook of the Birkman program is evident at the very start, to aid in relieving initial anxiety. (2) The list of strengths provides an outline of the six pages to follow. (3) This page helps to initiate positive group interaction. Few people object to revealing their strengths, and there is ready interest in finding out who has the same, similar, or different strengths. (4) Interest is generated in the pages to come, as members realize that "strength behavior" is to be described more fully under each of the six topics; moreover, those who tend to be self-critical start reading between the lines to discover what corresponding "stress behavior" will be related to this strength.

Both to establish the principle of respect for the individual and to lay the groundrules for a supportive group experience in the Seminar, the leader should make a statement to the effect that if a person chooses not to share some or any of his materials with the rest of the group, he must not be pressured to do so. The key to a successful Seminar is neither group pressure nor the leader's persuasiveness, but the cultivation of a relaxed and easy acceptance of personality variables--including reticence. After all, one cannot hope to encourage true understanding and acceptance of self and others if the style of the Seminar itself is intolerant and embarrassing.

After giving everyone an opportunity to review his "Strength" Page and to share it voluntarily with the group, the Lay Leader can ask if there is anyone in the group who cannot identify with most of the statements on the page. Only occasionally will someone not relate to this page. Should this occur, the person can be invited to explain. If the individual says, in effect, "I am not that 'good'," the leader can affirm the fact that the report identifies these traits as potential positives and that the statements should fall into perspective as the remaining pages are reviewed. The same line of reasoning should be advanced with the very

rare person who takes a hostile attitude about the report. "That is a very interesting perception. Let's plan to check that again after we have seen and discussed the entire dynamics of the print-out." The leader should not argue with the person, or let the disagreement become a point of contention and debate.

The audio-cassette introduction will have provided a general context for the Seminar participants, and Page 1, the "Strength" page provides some further orientation; but before distributing Page 2, the first of the Guide Pages, it is important to review with the group the format of the guide pages and to cultivate additional understanding about the relationships among the Basic Needs and the "strength" and "stress" behaviors. There are only a few central points to be made:

(1) It is assumed that everyone in the group prefers positive and creative behavior to destructive and self-defeating behavior.

(2) Behavior can be either positive or negative. At times a person can be very comfortable with others and at other times feel very self-conscious and uncomfortable. At times a person might work very creatively with others and at times that same person might feel a strong sense of hostility towards organizational efforts or particular individuals.

(3) Many of the reasons for different behavior in individuals can be understood in relation to the basic psychological needs of these individuals.

(4) We may think of the fulfillment of these needs in the same way that we think of food. Food is a "given" necessity of life. A diet appropriate to our needs enables us to survive biologically. On the other hand, very simply, if we do not eat we ultimately starve to death. More specifically, Vitamin C is a given necessity for human beings. As long as it is consumed in appropriate frequency and amounts, we are better able to withstand infections, etc. On the other hand, if the proper amount of Vitamin C is not taken, there is a greater vulnerability to infectious disease and, in extreme instances, the likelihood of contracting scurvy. Food or Vitamin C can be thought of as the "givens" of life. Taken in the proper amounts, they lead to positive results. If they are not taken, the results can be harmful. The same principle applies to behavior. Each human being has certain basic behavioral needs. These are "Givens." In and of themselves they are neither good nor bad. These are the Basic Needs of the report. If the needs are met, positive behavior results; but if the needs are not met, behavior becomes more defensive and less fulfilling, more frustrating and less self-realizing.

(5) Each individual will receive one page for each of the six areas already referred to. All pages are organized in the same way. In the center of the page, between the dotted lines, is the particular basic need of the specific individual for the area indicated at the top of the page. This need is never "good" nor "bad." However, when the need is met, when it is fulfilled, when it is dealt with in a creative manner, then as a result of the fulfillment of the need, the positive behavioral traits indicated on the top part of the page help that person to fulfill his potential. On the other hand, non-fulfillment of the need brings about the kind of defensive or non-actualizing behavior indicated on the lower half of the page.

(6) Behavior is the result of assumptions (of how we perceive things even more than how they "really" are). If it is assumed that the need is met, then behavior will be experienced in terms of the creative traits described on the top part of the page. When a person feels that his need is not met, then behavior will be evidenced by traits described on the bottom part of the page.

The individuals are now ready to begin receiving their individual guide pages, one page at a time. After the participants read the first set of guide pages (Page 2 of the report), but prior to discussion, the following two points should be made clear in order to avoid any later confusion:

(1) After getting into two or three more pages, participants begin to wonder how many different basic needs are described. The Method analyzes a total of 123 basic needs distributed over the six areas covered in the guide pages. This may seem to be a small number of variables to describe meaningfully some important aspects of behavior of millions of people; however, in any given area of analysis the individual components are relatively few. In all the known universe, there are only about 100 different chemical elements. However, thousands upon thousands of chemicals are used in daily life. This variety is the result of the almost unlimited combination of these basic 100 components. There are only three primary colors, twelve basic notes of music, twenty-six letters in the alphabet. Variety is the result of different combinations of components, not of any large number of different components. The same fundamental principle holds true of the basic needs discussed in the seminar. It will happen that a number of participants will have identical or similar pages. This obviously does not mean that these people are alike or act alike. However, some of their behavior will have a common foundation where this basic need is concerned. Different people will express their strength in different ways, but the ability to act will have its genesis in similar or even identical causes.

(2) One other point to be kept in mind. As seminar pages are shared and discussed, many participants will be able to identify themselves with the statements made on pages other than their own, some even on pages which describe traits quite the opposite of those described on their own pages. Remind your group that by this time in their lives, they have had to deal with and adjust to many different kinds of personalities. The ability to be able to identify and relate with persons quite different in their psychological make-up is a sign of maturity and ability to relate to others. However, the particular and specific need written for the particular individual is the one that is most significant in this area of concern for the fulfillment of that individual's potentiality.

Helpful Suggestions to Give to Seminar Participants

The list of suggestions given below indicates that the discussion should revolve around the basic need shown in the middle of a computer page, and that the question to be kept uppermost is "How am I meeting my needs, especially in relation to persons whose needs are different from mine?" Something of the way that a group process can be helpful is found in the suggestions that a member share his report, ask others for their understanding of meanings which seem unclear, speak of how statements actually apply to his own behavior, and seek similarities and differences.

1. Share your findings. Open the way for the Seminar group to support your inquiry by reading your page aloud. Find out who has the same page or a different page from yours.

2. Rephrase the basic need shown in the middle of each page. The group can help in this process; for instance, suggested words and phrases could be written on a blackboard.

3. Look for conflicts. Notice how your own personal need causes conflicts with those whose needs are different--parents, teachers, siblings, friends, etc. Also consider how well the need on this particular page is being met daily, on the job or in class, at home or in the residence hall, at play. etc. Note how often causes for conflicts are found in outward circumstances rather than in the inner self.

4.. Underline phrases. Underline the phrases on your pages which add a fresh insight. Tell the group how you have seen statements apply to your behavior.

5. Explore the meaning of phrases. Ask others to explain their idea of the meaning of a phrase with which you disagree. Beware of a defensive resistance to self-discovery by putting the pages aside, forgetting, or discrediting them rather than discussing, testing, and applying the findings.